

In This Issue—*Common Sense in the Saddle*

MOTOR AGE

Vol. XLVIII
Number 4

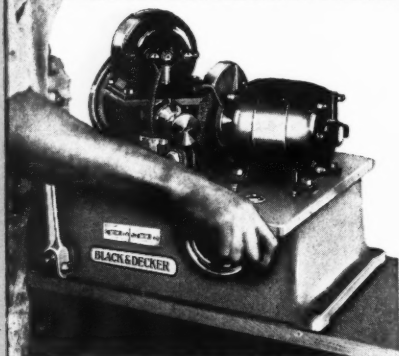
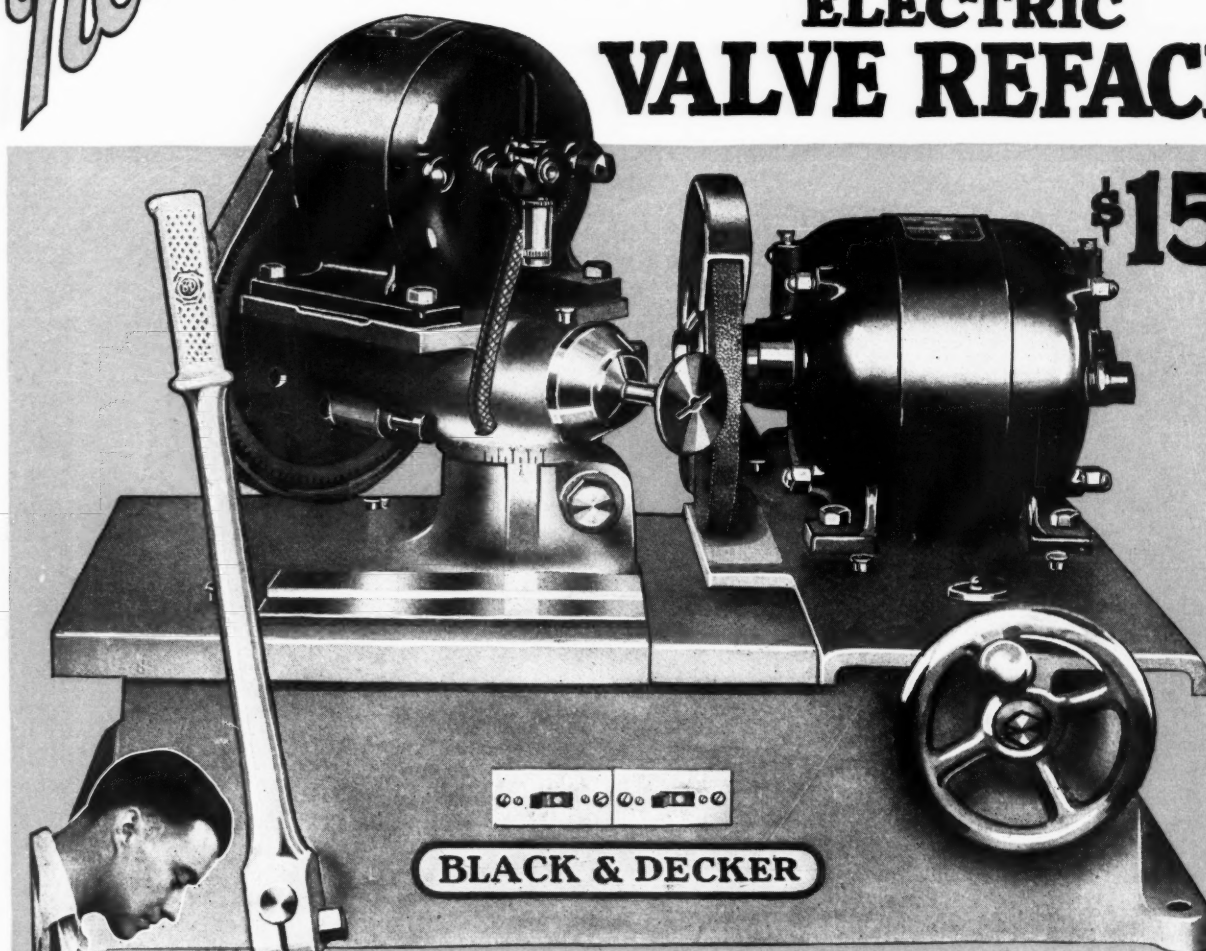
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CHICAGO, JULY 23, 1925

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September first?**

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Complete with three collets, $\frac{5}{16}$ " , $\frac{3}{8}$ " , and $\frac{7}{16}$ " capacities, one truing diamond, one attachment for grinding valve seat reamers, one grinding wheel, wrenches and electric cable with attachment plug.

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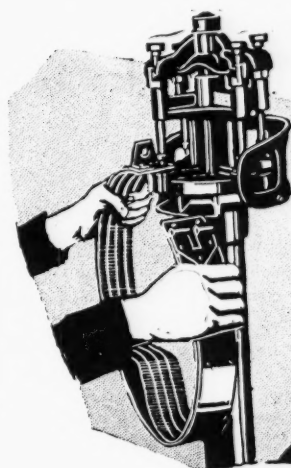
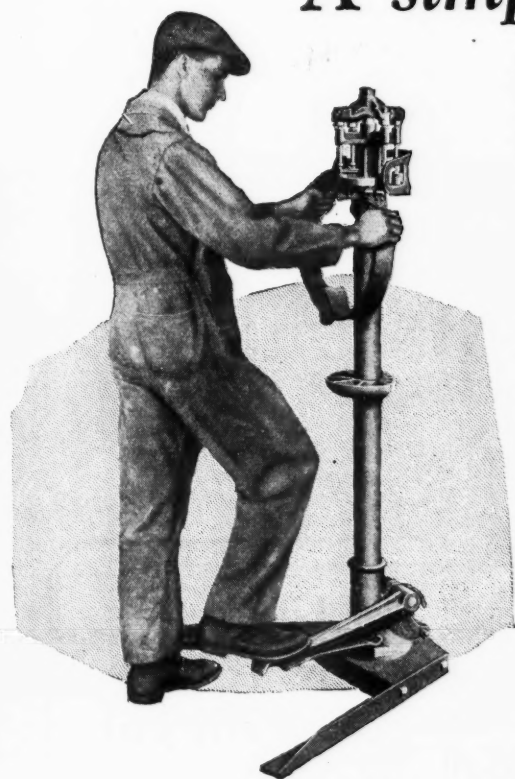
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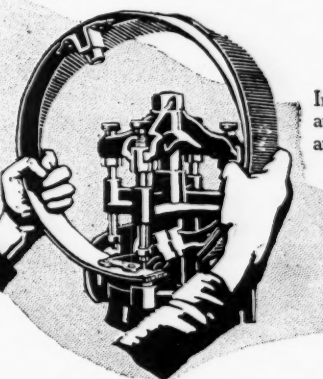
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A simpler, better, quicker way to reline Brake Bands, Ford Transmission Bands and Disc Clutches



External brake bands are easily handled as shown in this illustration



Internal brake bands are easily serviced in an upright position

The New **WEAVER** Model H Brake Service Machine

"Make a machine that will be simpler, quicker, more convenient for the mechanic to operate—that will handle all types of relining work—on one machine—and do a better job—without tying up his electric drill or other equipment."

These were our instructions to Weaver Engineers. How well they have carried them out you'll realize when you see the new Model H Weaver Brake Service Machine.

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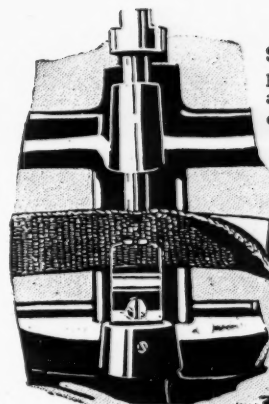
- Handles various types of internal and external brake bands, brake shoes, Ford transmission bands and disc clutches. No extras to buy.
- One machine handles the entire job—removing old rivets, punching and countersinking holes for new rivets and heading rivets.
- Holds work at convenient height for operator.
- Foot operated, allowing mechanic to use both hands to hold work.
- Turret provides ample clearance for all types of bands, shoes, etc.
- Insures countersinking all rivets to same depth.
- Makes a smooth, clean cut job—no bulging up or fraying of lining around rivets.
- No electric current required and no electric drills tied up.
- Employs method of relining similar to that used by factories producing 90 percent of new cars.

Your jobber's salesman will be glad to explain above details to you—or better still, arrange a demonstration for you. Ask him now and get your share of this profitable business while the busy season is on.

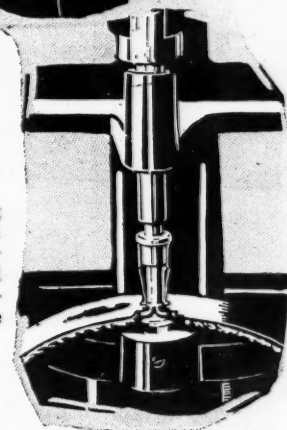
Weaver Manufacturing Company
Springfield, Illinois, U. S. A.

Weaver Canadian Company, Ltd., Chatham, Ontario

ADV. PICARD-SOHN, INC., N. Y.



Showing how punch and knife are used to shear off old Ford rivets



Set for inserting Ford rivet and spreader. Countersinking rivet and spreading are accomplished in one operation

Ask Your Jobber's
Salesman

.... He's a
WEAVER Representative

PERFECT CIRCLE REGULATOR

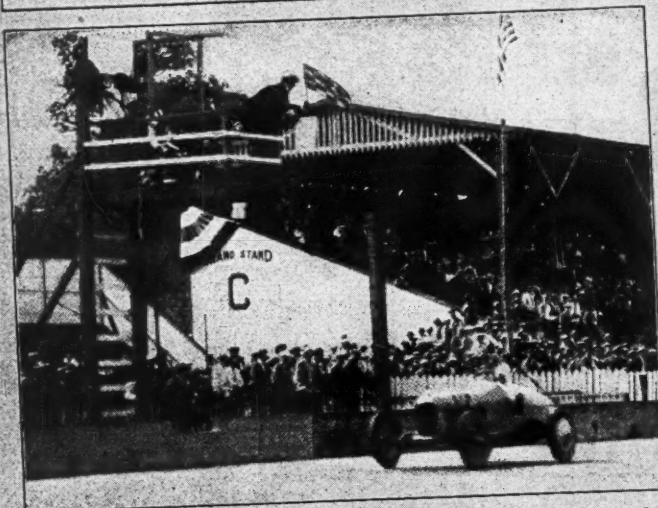
Vol. III

Published by Indiana Piston Ring Company, Hagerstown, Indiana

June, 1925

"Perfect Circles" Win Again at Indianapolis

WINNER FINISHING GREAT RACE



PETE DePAOLO GETTING CHECKERED FLAG IN HIS DUESENBERG SPECIAL

PERFECT CIRCLE VICTORIES CONSTITUTE GREAT RECORD

The list of race victories in which PERFECT CIRCLE Oil-Regulating piston rings have been a contributing factor, constitutes a record without parallel. It is a tremendous endorsement of the PERFECT CIRCLE principle of oil-regulation, as embodied only in the PERFECT CIRCLE Oil-Regulating ring, and a tribute to the high standard of quality and workmanship maintained in PERFECT CIRCLES. Every major race in the

Concluded on page four

First Nine Places Taken by American Cars Using Perfect Circle Oil-Regulating and Compression Type Piston Rings.

Pete DePaolo's record Duesenberg Special, and eight cars that followed the finish-line in the Indianapolis mile race May 30th, were with PERFECT CIRCLE Oil-Regulating and Compression rings.

It was the fourth year that the race had been equipped with PERFECT Oil-Regulating rings.

THE RING THEY

Above is reproduced in the PERFECT CIRCLE Regulator. The rings used in the Duesenberg Special are practically the same as those used in the other cars. They prevent oil-pumping and thorough lubrication.

The winning Duesenberg Special established an average of 101.13 miles per hour. The former record was held by a Miller-motored car in another PERFECT CIRCLE equipped Duesenberg, per hour.

Only one minute behind DePaolo came the Miller-motored, first in the race. Eight, in which he had Lewis shortly after mark. Lewis led the

Concluded on p

Let Us Know If You Want This

AT the left is reproduced the first page of an issue of the PERFECT CIRCLE Regulator. It is a miniature newspaper, published monthly, devoted to live piston ring news, and carrying on the inside spread pictures of interest to the general motoring public, as well as to jobbers, accessory dealers and motor car distributors.

You will be interested in the PERFECT CIRCLE Regulator yourself, and the inside spread of pictures, exhibited in your window, will attract attention not only for itself, but for your entire window display. We shall be glad to add your name to the "Regulator" mailing list, without any obligation on your part. Just fill in the coupon on the lower margin, and mail today.

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MOTOR AGE

Reg. U. S. Pat. Office

Vol. XLVIII

No. 4

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 Entered as Second Class Matter Sept. 19, 1899, at the Post Office at
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A Trade Paper —Exclusively—

MOTOR AGE is a trade paper.
 It is published in the interest
 of those engaged in the retail auto-
 motive trade, and it is not intended
 for anyone else.

You know that, of course. So does
 everyone else that reads MOTOR
 AGE. Yet it is surprising how
 many people outside the trade think
 they want the paper. Every day
 we return a batch of subscriptions
 received from people who are not
 in the business, but who want to
 read MOTOR AGE. One month
 we sent back \$800.00 worth of
 orders of that kind.

As an exclusive trade publication,
 MOTOR AGE gives its editors an
 opportunity of thinking in the
 terms of the dealer or merchant,
 whose business life is wrapped up in
 things automotive. These editors
 can talk to you in your own lan-
 guage. With such a well directed
 editorial policy their attention is not
 diverted along other lines. They
 can concentrate in studying and
 writing about automotive sales and
 service exclusively.

We believe that our policy of
 restricting our circulation to the
 trade is correct. We know that it
 is necessary if we are to continue to
 supply a magazine of the type that
 we are now sending you. And we
 hope that you will lend us your
 co-operation in our efforts to main-
 tain MOTOR AGE as a trade
 paper—exclusively.



Have You Tried "Re-Fendering?"

It is a labor-saving, profit-building business!



A word to the Parts Distributor

If there is vacant territory where you are, and you would be interested in a Fostoria distributorship, let's get together and talk it over. Write and ask for distributor plan.

RE-FENDERING is a profitable new business that Fostoria is developing for dealers and repair shops and service stations everywhere. It puts more money in their pockets than the old method of hammering out battered fenders. It gives greater customer satisfaction—and saves delays.

You can secure Fostoria Fenders from a nearby distributor, usually the same day you order them—very different from ordering from a far distant car factory and waiting days for delivery.

The Fostoria Wall Chart lists all Fostoria distributors. It will be sent free if you fill in the coupon below. Then hang it where it will help sell new fenders, and order from the nearest distributor on the list.

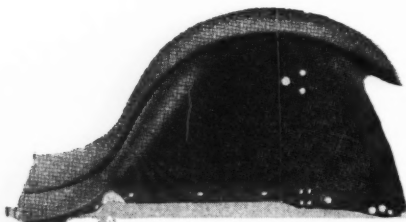
THE FOSTORIA PRESSED STEEL COMPANY

Department B

FOSTORIA, - OHIO

The Fostoria Pressed Steel Company, Department W, Fostoria, Ohio.
Please send me, without obligation, my copy of the Fostoria Fender Wall Chart, in a special mailing tube without folding.

Name..... Address.....



Replace with
FOSTORIA FENDERS



*This symbol means that Studebaker prices do not
include the profit of outside body-makers*

Studebaker Cars are known the world over as sturdy, dependable, honestly-built automobiles. This is one reason why so many owners come back for their second and third Studebakers. And it also explains why Studebaker dealers are so unusually successful.

THE STUDEBAKER CORPORATION
OF AMERICA
SOUTH BEND, INDIANA

T H I S I S A S T U D E B A K E R Y E A R



KEEPING up appearances has broken the provider of many a family—and also many a car dealer.

Sometimes we find ourselves so situated socially or in business that we have to spend too much for show.

A lot of car dealers are compelled to do it because of the example set them by others handling the lines they sell.

I am more anxious to see Stutz dealers sell cars and make money, than to make a show.

FREDRICK E. MOSKOVICS
President

STUTZ MOTOR CAR COMPANY
of AMERICA, INC.
INDIANAPOLIS, INDIANA

A Victory for Motor Vehicles

Motor vehicles gained a point at a recent meeting of the park commissioners of San Francisco. The ordinance excluding them from the park was modified to admit them on the south drive, commencing at Waller and Stanyan Streets and thence to the ocean beach. The speed must not exceed eight miles an hour. In time the new vehicle will be admitted to all parts of the park.

*March 15, 1900
in The Motor Age!*

Automobiles Now Allowed in Park

Once they excluded automobiles! And now it is a question of how many cars any park can accommodate.

In all the cars that course the roads and boulevards you rarely see one that is not Timken-equipped. That's one great reason that there are so many cars!

Of the eighteen million automobiles so far built, fourteen million have been sold by dealers in Timken-equipped cars!

THE TIMKEN ROLLER BEARING CO., CANTON, OHIO

TIMKEN
Tapered
ROLLER BEARINGS

HEAVY DUTY SPEED WAGON



The Heavy Duty Speed Wagon supplements a line of Reo products representing the most complete line of motor transportation in the world.

Today is the most opportune time to apply for the sales franchise.

Created by Reo
for the
economical and
expeditious
hauling of
2-Ton Loads

Chassis
—\$1985
AT LANSING

REO MOTOR CAR COMPANY *Lansing, Mich.*

MOTOR AGE

Vol. XLVIII

July 23, 1925

No. 4

Summary and Index of Important Events in **This Week's Automotive News**

Detailed Stories from MOTOR AGE Staff Writers and Special Correspondents Appear in News Section Beginning on Page 32

AUTOMOTIVE production now at low point for the year but sales continue in heavy volume, many predicting last half of 1925 will be as good as or better than first six months. Page 32.

Meeting of Yellow Cab Manufacturing stockholders to ratify merger with General Motors scheduled for August 18. Page 32.

Climbing prices of crude rubber have little bad effect on Wisconsin factories thus far. Page 33.

Net sales of Dodge Brothers passenger cars and parts totaling \$117,045,569 for first half of 1925 set new high record. Page 32.

Goodrich and Ames Holden Canadian products now being developed with consequent expansion. Page 33.

Tire prices raised by Goodrich for fourth time this year. Other companies expected to follow. Page 33.

General Motors' sales during June, 1925, are 10,557 greater than those of same month last year. Page 34.

New Ford branch at Mexico City will be headed by A. R. Lajous, formerly manager of the Havana branch of the Ford Motor Company. Page 34.

Transportation section of the International Chamber of Commerce to study economic phases of motor vehicular freighting with relations to other transportation. Page 39.

The second of a series of sales meetings is held by Velie Motors Corporation at the factory in Moline, Ill. Increases in business over 1924 are reported. Page 43.

Diana Eight is received enthusiastically by the public, says Vice President Rengers after extended tour of metropolitan centers where new Moon product is being shown and sold. Page 38.

Secretary Mayes of Missouri agricultural board urges farmers to establish roadside markets for accessories as well as produce. Page 43.

Number of unfilled Stutz orders at the end of June is greatest in history of the company. June business 20 per cent better than May. Page 38.

Ford roadster is sent from Detroit to Cleveland by air when the new airport at the latter city is opened. Page 35.

Canadian automobiles pass 600,000 mark in registrations for the first time in history. Number is 652,121 January 1, while last year it was 593,323. Page 35.

With about 40,000 orders on the books, Chrysler plants at Detroit speed up production to 750 cars daily. Page 35.

Maudslay Motors Company of Coventry, London, brings out a safety coach chassis in three models, designed for high speed bus travel. Page 42.

June sales by Hupp Motor Car Corporation are reported to be greatest in history of the company. Eight cylinder models increase in shipments 77 per cent over May. Page 42.

Manufacturers of motor cars seek through N. A. C. C. to arrange return of replacement parts business, largely held by independent makers. Page 39.

C. C. Hanch, general manager of National Association of Finance Companies, will speak on time-payment problems at meeting of Ohio council, N. A. D. A., August 6-7. Page 37.

IN NEXT WEEK'S ISSUE—Driving All Wheels of the Car

As the Editor Sees the Automobile Business

Random Observations on Sales and Service

By SAM SHELTON

PYROXYLIN painting systems are making a wonderful impression on automobile dealers. Some see the possibilities for new and profitable business opened up by this development and, as might be expected, there are others slumbering peacefully while opportunity saunters by.

Dropping in here and there among small city dealers the other day I was highly gratified upon finding in a town of 2,000 population a dealer who had a pyroxylin painting system in full operation although he had not yet had time to build special spraying booths, install ventilators or do a number of the other things that it is advisable to do if one expects the best and most profitable results.

This dealer did what many others have been thinking about. He put in an outfit primarily to repaint used cars to give them readier sale at better prices than they otherwise would command. He found that one of his men soon became very adept at spraying cars and could put on a very presentable refinish job. It was the kind of job that could be put on in a reasonable time and that customers were willing to pay a fair amount for.

There is such a thing, you know, as doing too good a refinish job. I may be offending the old time painters in saying so, but to spend days and days of a high priced man's time painting and polishing a used car until it shines like a new piano seems to me to be nonsensical. The car owner is not likely to be in the market for a repaint job until his vehicle is at least a year old and then what he wants is a new finish that will preserve the vehicle and make it look well without the pretense of trying to pass it off for a new car.

Just a decent refinish job that a moderately skilled workman could put on at a cost the car owner can afford to pay is what the trade needs, and that is just the sort of job this dealer I started out to tell about was doing.

The work was done in a corner of the shop near a large window. Fenders and hood were taken outside, in a protected place, and sprayed in the open air. The work was going along nicely. The equipment hadn't cost much, the spray gun operator was on to his job and there were plenty of customers in sight. The proprietor was planning to install a regulation spraying booth, but meanwhile he was educating a lot of car owners to the advantage of the pyroxylin method of refinishing their old cars.

Another dealer handling a car that comes finished with pyroxylin found that a spraying outfit was a big help to

him in making sales. His customers frequently demanded new cars in unusual colors, in which case by means of a spraying outfit he would proceed to change the color of any car in stock to suit the requirements of the customer, having the vehicle ready for delivery within a day. And \$35 extra on account of a special paint job easily covered the cost of the transformation with a reasonable profit included.

Unfortunately not all good dealers recognize the advantages of the possibilities opened up by the pyroxylin painting systems. In one town the dealer with the largest plant had leased space on the second floor to a painter who promised to put in a pyroxylin painting establishment.

The painter did put in considerable equipment, including spray gun, air separator and other needed apparatus, but his heart was not in the enterprise for he had been a painter of the old school too many years to forget it. Furthermore he was a commodious consumer of moonshine and naturally the business was a failure.

Pyroxylin painting got a severe setback in that town simply because the dealer did not appraise it highly enough to be personally responsible for it and see that

SINCE the running of the last Indianapolis 500-mile race in which the front wheel drive Miller-built car finished second and only a few seconds behind the winning Duesenberg, there has been much talk pro and con about the application in the future of front wheel drive to passenger cars and other automotive vehicles.

Many hold that front wheel drive alone for passenger cars would be doing the job but half and that if anything the future cars will be ones in which all wheels are driven. The logic behind this is that it is just as feasible to accelerate as it is to brake on four wheels.

In the belief that much of interest could be published about driving and braking independently on all wheels of an automotive vehicle, multiple drive in other words, a representative of *MOTOR AGE* recently interviewed a recognized authority on the subject and results of this interview will be published in the July 30 issue.

it was done right. Another dealer without so large a plant and business, but with more foresight, probably will annex this profitable business.

Fire and insurance regulations in some states and localities seem to make it hard for the dealer to put in a plant that complies with all the regulations.

And yet a lot of nonsense has been spread abroad about the hazard of pyroxylin painting.

Repeated tests have demonstrated that it is not to be considered any more hazardous than ordinary painting.

In fact one of the large manufacturers conducted an experiment recently in which a car was sprayed in a room with no more ventilation than ordinary windows while two men in the room smoked cigars. This practice is not recommended.

There is no use taking fool chances, but it simply shows that considerable exaggeration has been spread around about the extreme danger of fire in a pyroxylin painting shop.

Letters received by *MOTOR AGE* indicate that this series of articles on Pyroxylin Finishes is pleasingly appreciated by our readers. The articles are practical, containing information for those contemplating equipment for this work and others who are already at it. All tradesmen who want to keep abreast of the times will find them well worth reading.

Should Floor Days for Automobile Salesmen Be Abolished?

N. A. D. A. Spokesman Says—"Yes"

COMPLETE abolition of floor days for automobile salesmen is recommended by A. R. Kroh, of the sales promotion department of the National Automobile Dealers Association, and his argument in favor of its abolition will be presented at the first annual convention of the Ohio Council, N. A. D. A. at Cedar Point, Sandusky, Ohio, Thursday and Friday, August 6-7.

Between 1,000 and 1,500 dealers, their salesmen, sales managers and service managers are expected to attend. Attendance at the meeting will be by automobile, the members having decided to make this a "motorized meeting."

"Salesmen spend three-fourths of their time now praying for floor day" is Mr. Kroh's description of happenings in the automobile salesroom. "Their prayers are well founded too, from all dealers tell me, some dealers declaring that as high as 75 per cent of their prospects walk inside the salesroom before the salesman is aware they are prospects. The salesman who is on duty the day the most prospects walk in is the salesman with the most prospects and the greatest number of sales. Naturally the salesman who draws an unlucky day is considerably perturbed about it. As a consequence the entire sales force is in turmoil.

"The question of compensation for salesmen is agitating not only the automobile business, but all business. We are asked constantly, 'which is the best plan of paying salesmen, salary or commission?' There is no hard and fast answer to that question. The thing the salesman is interested in, is not HOW he is paid, whether by salary or commission, but HOW MUCH he is paid.

"There has been very little constructive attention paid to this subject in the automobile industry until recently. Many of the leading dealers are paying salaries, salaries and commissions, commissions and bonuses in the hope of getting greater efficiency from the sales force. Elimination of floor day seems to me one of the first steps to be taken in the balancing up of the sales situation in a modern manner. There is too much hazard and too little recognition of pre-sales effort as a vital part of the closing of the deal."

Mr. Kroh is one of the three automobile sales experts of the United States, who will be heard at the Cedar Point dealer convention. For many years he was with the sales department of the U. S. Motor Truck Company, later became dealer development manager for the Goodyear Tire & Rubber Company at Akron, and for the past two years he has served in the same capacity with the Chevrolet Motor Company, of Detroit. Other sales experts will be Edward Payton of Cleveland, considered the leading retail sales manager in the automobile industry today, and Howard J. Wischaupt of Cleveland, of the N. A. D. A. staff of sales specialists.

"The salesman problem in the large town is a matter of grave concern to the merchants," Mr. Wischaupt declares, "but the problem is greatly aggravated in the small town.

"This is largely the result of the belief of the home town boy that his opportunity lies in the larger city, while as a matter of fact it is often right under his nose.

"It may be true in a number of cases that the salesman of the large city will make a bigger gross income, but the percentage of satisfying, satisfaction-giving incomes in the smaller towns is greater than it is in the large city.

"The small town salesman who keeps his mind on the job has more at the end of the year than the average salesman in the large city.

"While it is true that the large city salesman has a greater opportunity for study and training than the small town salesman, it is also true that the diversions of the large town are greater and the percentage of those who study and train in the city isn't much larger actually than the percentage in the small town.

"Since the perfection of the trade organization movement in the more substantial industries, the facilities for salesman education is extending farther and farther into the rural communities and the traveling institutes maintained by the larger trade organizations actually give to the salesman who is seeking information, as much material as the large city salesman will acquire."

Mr. Wischaupt is considered one of the foremost authorities of the country in the training of salesmen.

After a special tour of 50,000 miles in which he visited more than 150 merchandise distributing centers of the United States studying retail selling methods, he was engaged by the National Automobile Dealers Association for special sales work among the automobile tradesmen.

He is one of the staff of merchandising specialists maintained by the National Automobile Dealers Association for consultation and analysis of business in the automobile industry.

The Ohio meeting will be one of the more important dealer events of the year and is to be unique in more respects than one.

Association affairs of the Buckeye dealers are distinguished in the fact that they now are under the complete supervision of the N. A. D. A. through the Ohio Council of this national organization.

Since assuming this responsibility, following dissolution of the Ohio Automobile Trade Association, the N. A. D. A. has been doing some intensified and fruitful campaigning in that state. Big accomplishments are expected to be scored through the great gathering Aug. 6-7.



A. R. Kroh

Common Sense in the Saddle

New Wave of Sounder Business Practice By Dealers, Plus Sanity in Makers' Policies Proving Profitable

BY CLARENCE PHILLIPS

WERE we to hunt for a bit of paraphrasing that the trade would like to sing in lusty voice—and conditions would lend the proper enthusiasm—the song could well start off with:

"Yes, we have no used cars."

It will be generally conceded that this would make an inspiring chorus.

Conditions at present would not warrant such a great din of vocalization. Yet it is worthy of note that here and there are automobile merchants who could qualify today for participation in this song.

Last year they could not have done it, but that was last year when conditions were less favorable and when they did business, as a rule, in a different way. Last year at this time most of them were too well supplied with used cars and with the shadows of the season lengthening the middle of July found them working hard to clear the floors.

That is how well the used car situation has been taken in hand in certain localities and by certain dealers..

Rarely as such reports are received it is sweet music to hear actual *complaints* that the dealer is hard pressed to find used cars for prospective buyers—where his usual experience at this time has been quite the reverse of this situation.

In these exceptional cases we hear of dealers going into the open market to replenish used car stocks. They are not fighting to get out from under large stocks bought unwisely but rather they are bending energies to stock used cars at a period which often before has found them overloaded.

What is the answer?

Something has happened, for one thing, in the field of motor vehicle merchandising. A new power has taken root in the trade. There is a slow but steady revolution taking place which is bringing the merchant into the possession of his better business judgment. These dealers who are buying used cars in the open market simply have caught step with the new movement in the trade which prescribes sound and conservative used car practices.

It is safe to venture that the used cars which they buy now to meet demands of their trade will be bought at figures enabling them to sell at a profit.

Investigation of some of these cases divulges that allowances on trade-ins invariably have been closely figured. That is one of the big secrets of the quick clean-up. Having bought the cars "right" they have been easier to sell quickly without a sacrifice of profits and by moving the stock swiftly capital was liberated for other operations—

capital, in this instance, being diverted to the purchase of more used cars.

Notwithstanding the "worry" to which these dealers are subjected in finding suitable used cars for their business needs they are in an ideal situation and they have demonstrated what might be done by any retailer who will apply the same brand of horse-sense in dealing with this problem.

Ability at this time of the year to sing that thrilling refrain "Yes, we have no used cars"—is an attainment well worth striving for. If the time comes when all the trade can join in the chorus we will quit talking about the used car as being a burden to the new car business. That much is certain.

As previously indicated the cases to which we have just referred are isolated instances, yet they hold a big significance, standing as outward signs of a tendency toward better practices that is steadily developing in the trade. Theoretically used car stocks should be well worked down toward the last of July, yet we observe some dealers upsetting previous rules and cleaning up their large accumulations of used cars before the first of July and even by the middle of June.

They are the luminaries of the retail field at a time when the used car situation for the trade at large is exceptionally good.

Reports from substantially all sections of the country tell us that stocks of used cars have been satisfactorily reduced. In some localities the summer is making a new record respecting this important phase of merchandising operation. Of course there is a certain spottiness and there are dealers who are overburdened with used cars. But we can't expect too much.

From all accounts the trade doubtless is buying second hand vehicles more closely than in former years, indicating again that the new force of practical business sense in handling trade-ins is really asserting itself.

A factory representative who has just completed an extensive tour to study retail conditions made this comment: "There is a sharp and highly favorable contrast between the business methods employed by dealers this year and those of last year. I see it nearly everywhere I go. They are attacking their problems generally in a more gratifying manner."

Contributing to the improved situation, it should not be overlooked, is the sane policy of manufacturers, in planning production schedules from the first of the year to meet only the demands of the market.

This policy has rendered so-called "factory pressure" a substantially negligible element of which relatively little has been heard during the present year.

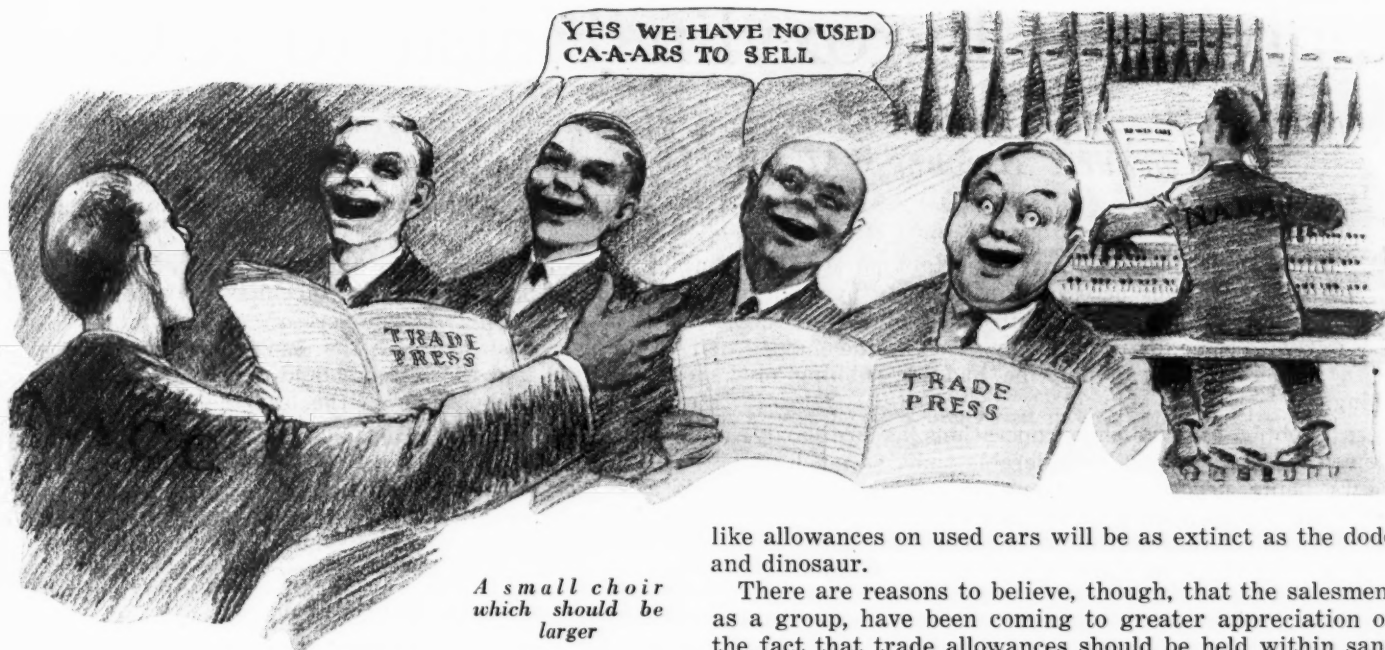
MANUFACTURERS and retailers are going to profit this year as the result of the new movement of saner business practices throughout the industry and the trade.

An important contribution by the producers has been in the policy of striving to hold output within the limits of demand.

Dealers have not been overloaded by the factories and hence they have not been guilty of the wild used car trading that characterizes a period of overproduction by the maker.

And it is apparent that the trade as a whole is operating on business lines of an improved character.

Business sense is taking hold. Let business sense continue its reign.



What has been and what still is being heard in numerous quarters are complaints of salesmen that they are unable to make sufficiently quick delivery of new cars. We can sympathize with the salesman on this point but his position is vastly better than would be the case were the house stocked to overflowing with cars that could not be moved without a sacrifice of profits. Such losses for the house are losses for himself, if he will only analyze.

The salesman's prosperity can not exceed the proportion of prosperity enjoyed by the retailer he represents.

Not So Sorely Tempted

Not overloaded by the factory and often having to wait his turn for factory deliveries the automobile dealer this year has not been so sorely tempted as in times past to make reckless allowances on used cars in order to move an over-abundance of new cars.

This has been to the salesman's advantage for he has not been obliged to stand his share of the sacrifice. And where he is called upon to sell used cars as well as new cars the low level of used car stocks, composed of models wisely bought, is a situation decidedly in his favor.

It enables him to give more of his time to new car selling and also make more money for himself on the used cars that he markets.

That dealer having a force of salesmen fully recognizing the importance of allowing for the used car only what it would be worth on the resale market is the kind which we trust will be typical in the future.

Resisting the salesman's unreasonable insistence for excessive allowance in order that he might collect a commission on a new car sale is something which has put the retailer severely on trial and inability to stand by his guns in such emergencies has cost the dealer many a dollar, if not those necessary extra dollars that mean continuance in business.

What the dealer, ordinarily, has failed to put across in the mind of the salesman has been the vital truth that such practices also minimize the salesman's own opportunity for profits.

Convince him of that and the used car problem will be greatly simplified, brought closer to the basis of profitable merchandising—and new car selling can be made more attractive for all concerned. One of these days, we trust, the salesman who talks the house into making unbusiness-

like allowances on used cars will be as extinct as the dodo and dinosaur.

There are reasons to believe, though, that the salesmen, as a group, have been coming to greater appreciation of the fact that trade allowances should be held within sane limitations. Explanation of this awakening might be found largely in indications that there has been a steady ascendancy in the intelligence and general capacity of the group. Misfits and those who are utterly unfit have been stepping out to make room for others more capable and with a broader grasp of business principles.

It is the salesman of this higher school who is looking out after the broad interests of his employer and who, if a confident guess will be permitted, has had much to do this season in helping move new and used cars and helping make real profits for the business.

He, so we believe, is representative of the type that eventually will dominate the selling field. All others gradually will be eliminated. It is the salesman, of course, who to a great extent makes or unmake the dealer's business. He has helped unmake it more in the past than he will hereafter.

Looking behind the entire picture of the healthful condition now prevailing and of the trend in the direction of sounder practices we easily discern the influence of organized effort and educational campaigning.

Undergoing Important Transition

Led by the National Automobile Dealers Association and the National Automobile Chamber of Commerce recent years have witnessed a remarkable catalog of assaults upon business evils readily capable of doing untold damage to the interests of all concerned. Eradications and progress toward further eradications and corrections have resulted and as cases stand today leaders in the trade are justified in the belief that the entire industry now is undergoing the most important transition in its history—a changing over from policies and practices of less sound character to those that make for a better and sturdier general business structure.

In the final analysis it might be said that Common Sense has come to the front and it is being well demonstrated that Common Sense pays. Conditions respecting the used car still are far from ideal but much fine headway has been made and there will be further progress. With factories holding steadfastly to the policy of limiting production to meet requirements of buying demand, with increasing factory cooperation, and with the dealer conducting his business in used cars upon a sensible merchandising basis the trade will have little to fear in the future.

Saying the least the situation has improved and sanity has figured materially in the betterment.

Applying a Pyroxylin Finish to a Car

Polishing Operations After Application of Enamel Coats. Striping Over Lacquer. Amount of Material Required for Average Job

By B. M. IKERT

RUBBING constitutes quite an important part in the various operations necessary in applying pyroxylin finishes to motor cars. While most of the newer finishes dry with some lustre naturally given by the enamel itself, a higher lustre can only be had by rubbing or polishing.

These rubbing and polishing operations as ordinarily performed by hand require considerable time, as much as 20 hours being needed some times to get the desired results after the application of the last enamel coat. Consequently it is very desirable to have on hand equipment or other means for reducing the time for rubbing and polishing. In this connection it might be stated that it is possible to buy rubbing, polishing and sanding machines pneumatically operated which very materially cut down the time required for any polishing or rubbing operation.

The particular machine as illustrated herewith is one which imitates very closely hand rubbing, or in other words it has a reciprocal motion. The machine weighs nine pounds, measures 7½ in. long, 3 in. high and 3 in. wide. The maximum length with the felts fully extended is 8¾ in. and the length of stroke is 2¾ in. It travels at a speed of 1800 strokes per minute with no load and 1600 strokes per minute with a light load at 80 pounds air pressure. It requires 8 cu. ft. free air at 80 lbs. to operate.

Has Holder for Steel Wool

It is possible to get this machine with what is called a universal holder designed to hold steel wool for the surfacing of curved or irregular surfaces such as automobile bodies. These holders also provide a simple and efficient means for securing felt and sandpaper. A sandpaper or emery cloth attachment permits 6 or 10 sheets being applied at one time which as the paper fills or becomes worn is torn off leaving a fresh sheet underneath.

The sandpaper attachment is very desirable since the use of water-proof sandpaper has greatly increased and is being used quite extensively in place of felt and pumice. Steel wire brushes are also useful in a machine of this kind and are quite extensively used in the removal of rust and so forth preparatory to painting a surface.

A moisture trap with the necessary gage and fittings is considered essential in connection with every rubbing machine in order to remove the water condensation in the air line and also to prevent scale, dirt and other foreign substances from getting into the working parts of the machine.

If a rubbing machine is not used it is customary to use a folded pad made of clean burlap. This is immersed in water and the excess water rung out before applying the rubbing compound. Rubbing should also be done in straight lines with even strokes the same as in rubbing varnish. As a general thing it is better to rub the body lengthwise and the same is true of the hood.

Striping Done After Rubbing

When it is desired to do any striping it can be done immediately after the rubbing operations. Any of the enamels can be thinned down to striping consistency with

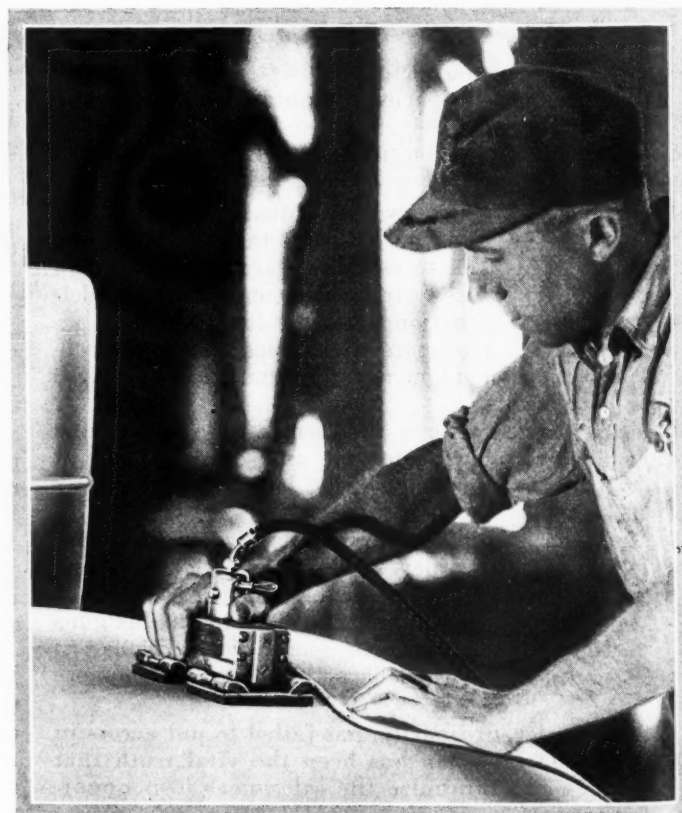
special reducers furnished by the makers or with regular Japan color reduced with a long oil finishing varnish and turpentine to striping consistency. A soft striping pencil of the proper size to give the desired width of stripe should be used and the latter should be put on with one straight stroke if possible, as the less the stripe is disturbed after it has once been applied the better will be the results.

If a lacquer stripe is used it should be allowed to dry for one hour or even longer before polishing and if Japan color has been used, at least six hours should be allowed before any polishing is attempted.

Requires Skilled Operators

It will generally be understood, of course, the striping is something which can be done only by a skillful operator. In one case today striping is being done by using a wire bound striper and a mixture of 50 parts of color and 50 parts of thinner and when using this mixture and stripers the maker advises to go over the work twice.

Very often the question is asked as to how much material is needed to finish a car using nitro-cellulose materials. It is rather difficult to give a definite reply to this question because the quantity of materials needed varies and each maker of materials has a somewhat dif-



The rubbing and polishing operations are the most tedious and a high lustre can only be had on the final coats by such operations. For this a rubbing machine is a decided help and above is shown a pneumatically operated machine for rubbing, polishing and sanding

ferent answer. It might be interesting, however, to know what the chemical products division of E. I. Dupont De Nemours & Company specifies as to the materials needed for finishing the average car. Here are the materials as listed by this company:

- 1 quart primer.
- 2 pounds putty glaze.
- $\frac{1}{2}$ gallon sanding surfacer.
- 1 gallon Duco.
- 1 gallon thinner No. 3601.
- $1\frac{1}{2}$ pounds Duco rubbing compound No. 2.

In connection with the subject of pyroxylin finishes it might be interesting to know that in a recent demonstration in a large automotive plant a small car was finished completely from the bare metal up to and including the final coat in 4 hours and 10 minutes.

The particular finish applied was the natural or satin finish as it is called and is known by this company as the "One day system." This system, as used by Valentine & Co., is applied as follows:

One Day System

Natural or Satin Finish—(Surface—perfectly clean, bare metal wood, or composition board)

(A. M.)

NITROCELLULOSE PRIMER: Spray a thin even coat just as the material is furnished, after careful stirring, and allow to dry at room temperature for half an hour.

NITROCELLULOSE GUNGLAZE: Spray on the necessary amount of nitrocellulose gunglaze—double or triple-coating where surface conditions demand. The gunglaze should be thinned only with the maker's type of solvent, using not more than one part solvent to one part gunglaze by volume, nor less than one part solvent to two parts gunglaze by volume. Gravity or pressure feed is desirable, especially if heavier mixture is used. Allow the gunglaze to air dry for 2 to 3 hrs. at room temperature.

(P. M.)

Scuff sand very lightly with fine dry sandpaper to remove dust specks and nibs. Dust off carefully and tack tag if desired.

NITROCELLULOSE ENAMEL: Spray on two coats of nitrocellulose enamel of the desired color thinned with equal parts of solvent by volume, the second coat following immediately after the first. Finish with a final coat—one part nitrocellulose enamel colored, one part nitrocellulose enamel clear, and two parts solvent by volume.

A car so finished may be safely driven out under normal air drying conditions (75 degrees Fahrenheit or over) a couple of hours after the final coat of enamel has been applied.

Standard Two-Day System

Natural or Satin Finish—(Surface—perfectly clean, bare metal, wood or composition board)

(First Day)

NITROCELLULOSE PRIMER: Spray on a thin even coat just as the material is furnished, after careful stirring, and allow to air dry at room temperature for half an hour.

NITROCELLULOSE GUNGLAZE: Spray on necessary amount of nitrocellulose gunglaze—double or triple-coating where surface conditions demand. The gunglaze should be thinned only with the maker's solvent, using not more than one part of solvent to one part of gunglaze by volume, nor less than one part of solvent to two parts gunglaze by volume. Gravity or pressure feed is desirable, especially if heavier mixture is used. After the gunglaze has air dried 1 to 2 hrs. at room temperature, nitrocellulose spot putty may be used to fill any extra deep

From letter of Sherwin-Williams Co., Cleveland, Ohio

Thank you for sending us the copies of the June 11th and June 18th issues of MOTOR AGE. We are very glad to have these.

In reading over the article as appears in the July 2nd issue, under the heading "Preparing the Car for Pyroxylin Refinishing," we experienced a couple of reactions that we are at least going to tell you about.

You say that in applying lacquer over the old finish the old coats may look all right for a time but eventually the vibration and time will break the coat away from the body. There are a number of expensive cars running in New York City today that have been on the road for two years and look practically as good as new, that were finished with our Clear Binder and Binder Surfacers by our Mr. Saxe a couple of years ago.

We have gone into the matter of a fire hazard pretty thoroughly and find that there is a lot of bunk connected with this. We know of a reliable source of reference, one of the largest underwriters in the country, who, in a recent bulletin stated that 18 months of investigation has definitely proven that the use of pyroxylin was less hazardous than paint and varnishes.

Last week in a local shop, where the only ventilation was windows, several cars were sprayed with the operator and several looking on smoking cigars and cigarettes. Of course, this is extreme, but it simply confirms our belief that all this excitement and extreme caution is out of order. Of course, the safest thing to do is to avoid smoking and not place any unnecessary hazards.

Remember that any time we can be of service, please feel free to call upon us.

Yours very truly,

THE SHERWIN-WILLIAMS COMPANY.

(Signed) E. W. Windsor.

imperfections not filled by the gunglaze. Allow to air dry at room temperature over night.

(Second Day)

Sandpaper the gunglaze coat. This should be done with two grades of water sandpaper—starting with No. 180 to No. 220, and finishing with No. 280 to No. 320. For final sanding add a little pumice powder, and on the highest grade work, finish with a fine pumice flour, felt and water, if desired. This sanding operation is highly important and care should be taken to avoid scratches. Rinse off thoroughly and dry with compressed air, taking special care to blow out all water from under mouldings, etc. Then wipe off with clean dry rags or chamois, and then tack rag carefully.

NITROCELLULOSE ENAMEL: Spray on two to four coats of nitrocellulose (according to color) thinned with equal parts of nitrocellulose solvent by volume only. Each coat may be sprayed on immediately after the application of the previous coat is complete, or any desired interval may be allowed between coats. The last coat should be made up as follows: One part enamel colored, one part enamel clear, and two parts of solvent by volume.

In next week's issue of MOTOR AGE the complete directions for cleaning a car with the Deoxidine Process will be given. So much depends upon the proper preparation of a car before refinishing it and so much interest was shown in one of the previous articles on this particular point that we have prepared an article on the Deoxidine Process since it is recommended by many paint and varnish makers for automobile refinishing establishments.

Oakland Has New Line of Bodies and Numerous Chassis Refinements

Five Styles Now Available. Harmonic Balancer Applied to Crankshaft. Oil Filtering Device and Air Cleaner Regular Equipment

WITH the introduction of a new line of bodies, improved radiator design, a harmonic balancer for the crankshaft, and more than one hundred refinements in design, including the addition of an air cleaner and oil filter, the prices of the new Oakland cars are from \$70 to \$350 lower than the previous models.

Concentrated production has resulted in five body styles. Prices on the five models are as follows: Touring \$1,025; Coach \$1,095; Landau Coupe \$1,125; Sedan \$1,195; and Landau Sedan \$1,295.

Has Harmonic Balancer

An exclusive and outstanding development of Oakland and General Motors Research engineers, the new harmonic balancer which is applied to neutralize torsional vibration of the crankshaft, is fitted to the new Oakland cars for the first time. Forming an integral unit with the crankshaft and located between number one and two crank pins, the balancer is a positive non-wearing medium, requiring no adjustment. The device consists of a light steel bar, pivoted to the shaft at its center and tensioned by stiff springs at both ends. The weight of the bar and the stiffness of the springs are so selected that the balancer has a frequency of vibration the same as the shaft itself. When, therefore, there is the slightest movement of the shaft, the harmonic balancer immediately picks it up and vibrates in an opposite direction. Each movement of the shaft is

opposed by a heavy force which the balancer applies through its springs, and thus holds the shaft steady.

Turning to the latest chassis changes, the majority of the improvements have been made in the engine to provide for longer life and ease of maintenance. There has been no departure from the characteristic Oakland features and dimensions.

Increasing the weight of the crankshaft 13 lbs. to a total weight of 66 lbs. has allowed the webs to be greatly strengthened making the shaft stiffer and stronger. This together with the harmonic balancer virtually eliminates all vibration. To provide greater rigidity for mounting the crankshaft, the center main bearing has been lengthened from 2½ in. to 2¾ in., while all main bearing caps are secured by four bolts instead of two bolts only.

To keep the lubricating oil free from grit, carbon particles and other foreign matter, an oil cleaner consisting of filtering cloths and screens carried inside a metal case is adopted. The interior of the filter which may be replaced at nominal cost when choked, allows the oil to pass through freely but retains the sediment. Under ordinary summer driving conditions, it is recommended that the oil be replaced between every 2,000 and 2,500 miles.

Oil is now fed through ducts in the crankshaft which form a continuous passage the entire length of the shaft thus eliminating exterior oil tubes.

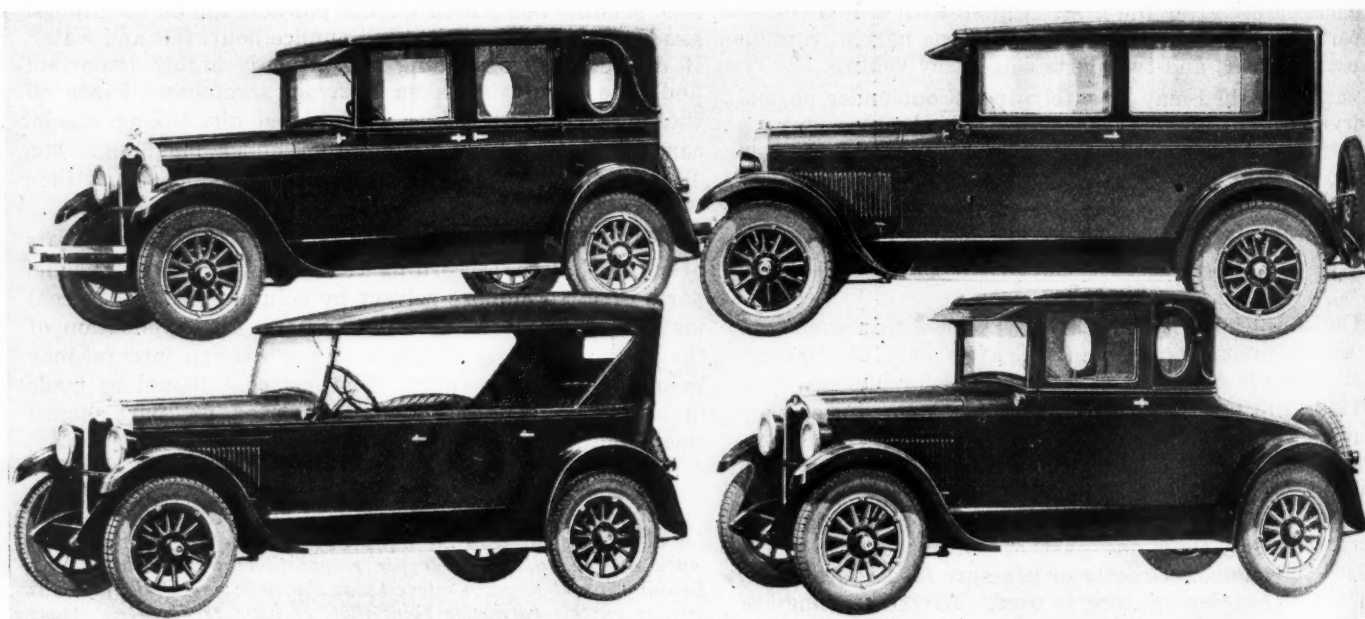
Through each of the three main bearings, oil is forced into this passage thereby equalizing the pressure of flow to all main and connecting rod bearings. Leads from the oil distributing system also go direct to all the camshaft bearings, the timing chain and sprockets. The use of pressure feed to the connecting rod bearings through holes drilled in the crankshaft provides for positive lubrication.

Instead of being at the front of the engine as formerly, the oil pressure regulator is located in the center of the crankcase where it is accessible for adjustment, and insures full uniform pressure throughout the oiling system. The line to the pressure gauge is now taken off from this point.

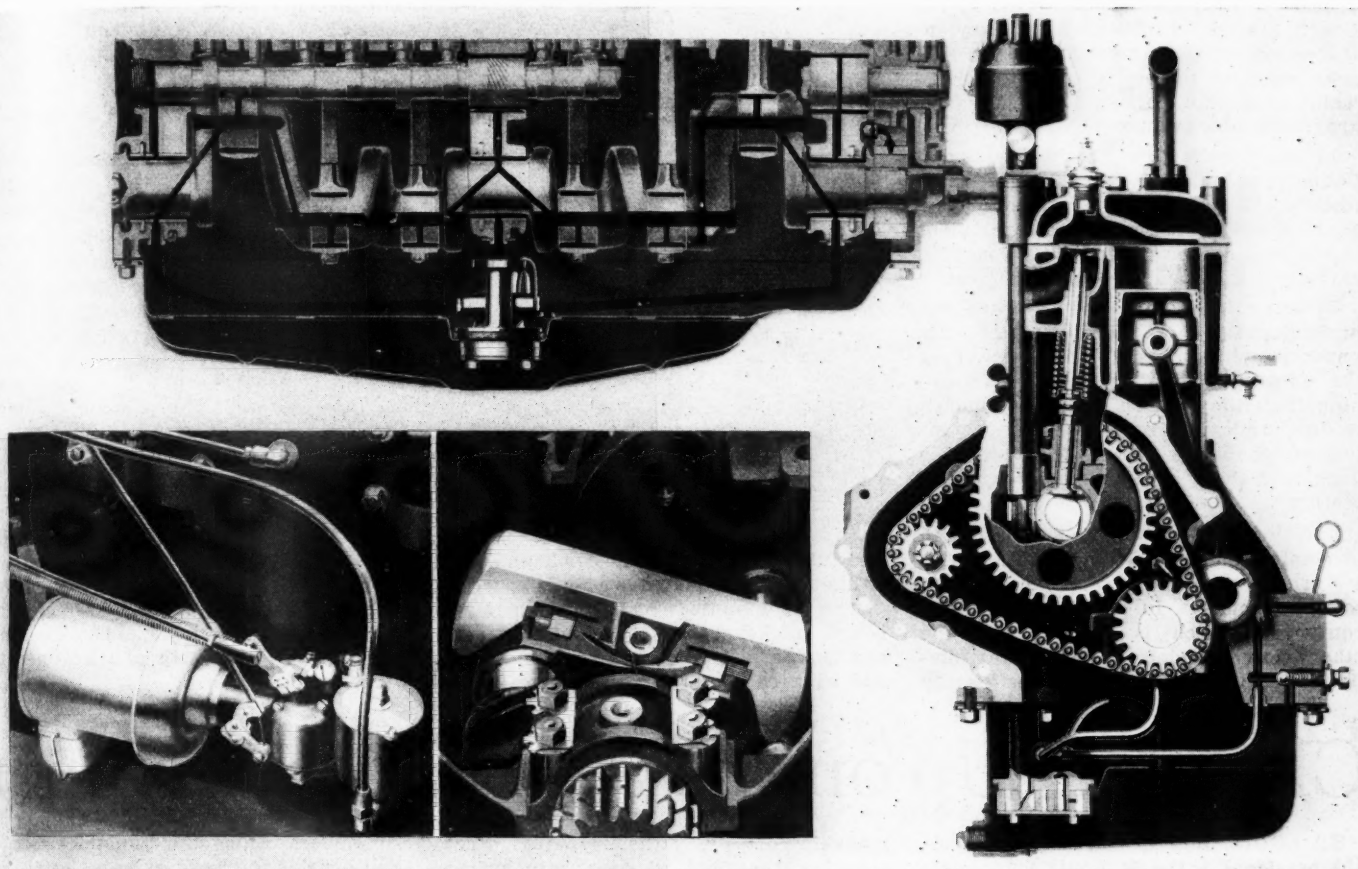
Oil Pan Deepened

Deepening the oil pan below the pump allows space for the accumulation of water below the level of the oil pump, thus preventing the pump from freezing in cold weather. Extending the screen across the entire length and width of the pan, strains the oil as it returns from its passage through the oiling system. In the extreme possibility of this screen becoming clogged, a by-pass pipe extending from the pump below the screen will automatically allow the oil to be delivered to the engine without passing through the screen.

An important feature from a service standpoint has been incorporated in the redesigning of the oil pan. Instead of placing the drain plug in the bottom cen-



Four of the new Oakland models. Top, left, landau sedan; right, coach. Bottom left, touring, and right, landau coupe



Some of the mechanical details of the Oakland. At the top is shown the oiling system, which is further shown in the cross section view of the engine. The two lower views show the carburetor air cleaner and the harmonic balancer on the crankshaft

ter of the oil pan, it is now located at the lowest position on the right hand side of the pan so that it is no longer necessary to crawl under the car to drain the oil. On account of its location, when the oil is released, it carries with it any water or foreign matter which may be collected beneath the pump.

Formerly the valve lifters were of case-hardened steel, now they are built up with cast iron feet welded by a patented process to steel barrels. The diameter of the valve lifter stems has been increased by $\frac{1}{8}$ in. while the valve stem guides have been lengthened by $\frac{1}{8}$ in. To give better high speed performance, the valve springs have been compressed more tightly at their upper ends.

Two Locking Devices

Two locking devices are now employed to secure the piston pins. Instead of the former full floating type, the pin is now locked in the piston by a set-screw and works in a solid bronze bushing in the connecting rod. The locking rings at each end of the pin are still retained.

An A. C. air cleaner, General Motors development, of centrifugal type is provided as standard equipment to filter the air entering the carburetor. While there are no moving parts in the cleaner, the design imposes a minimum restriction on the air flow which is estimated to be 72 cu. ft. per minute at 25 m.p.h. road speed of the car. Save for the emptying

of the quick detachable sediment container at the front end once a year, the cleaner requires no attention. Improvements in the gasoline tank to prevent water and foreign matter passing into the fuel line have been made by extending the gas line further into the tank.

To eliminate the possibility of the ignition coil becoming wet in inclement weather, it has been removed from the side of the engine and placed under the cowl. At the same time the headlight wires are now carried through the inside of the radiator shell to afford greater protection. A fully perfected automatic spark advance is also fitted.

Making the radiator core deeper and wider has provided $12\frac{1}{2}$ per cent increased cooling area.

Lowering the running boards by $1\frac{1}{2}$ in., the adoption of 30 by 5.25 in. balloon tires mounted on artillery wheels in place of 31 by 4.95 tires on disk wheels and a change in the four wheel brake leverage, constitute the alterations of any importance which have been made on the remainder of the chassis. Braking efficiency of the mechanical four wheel brakes has been accentuated by increasing the wrap of the rear brake. This change allows all brake bands to be interchangeable. To make the brake pedal action softer, the brake pull-back spring has been lengthened and made more flexible.

A new nickel plated radiator shell of ornamental and distinctive design together with special head lamps now supported by a tie rod and cowl lights to match, gives an impressive front view. The design of the Oakland name plate has also been improved.

Nickel Plated Radiator Shell

Because of the reduced body height, lower running boards and fenders full crowned and deeper by $\frac{3}{4}$ of an inch, the new cars have a long low symmetrical appearance which harmonizes with the new radiator design. All bodies which are built by Fisher and finished in Duco have compact low-hung lines achieved through the use of beading of the double moulded type extending from the radiator entirely around the body.

Genuine leather is used in the upholstery of the touring car. The windshield is of a new one piece design and swings outwards from near the top where it is fastened to the standards in such a way as to prevent water leaking through into the front compartment. Side curtains fit unusually tight as the top is of the permanent type which allows the employing of glass enclosures, the latter being obtainable at extra cost. Finish is in duo-tone Buckingham gray below the beading with Waverly light gray above.

Pullman type front seats double hinged to fold forward with a large three

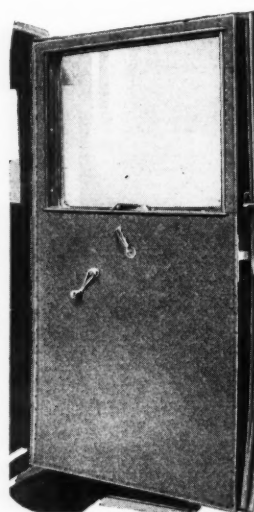
passenger rear seat are provided in the Coach. Doors, 34 in. wide allow easy entrance and exit. Interior finish is in rich gray corduroy upholstery with gray side walls while the outside is Buckingham gray with black upper structure.

Finished in Bowling green, the Landau Coupe is upholstered in genuine Spanish leather and comfortably seats three persons. Besides the spacious compartment in the rear deck, smaller parcels may be carried in the opening behind the seat.

Pleasing lines have been worked out in joining the top structure to the rear upper panel, while drip moulding along the sides of the top prevent water dropping from the roof on the Sedan model. A fine grade fabric is used for the interior upholstery while the exterior is done in Cobalt blue with black upper-section.

Exterior finish the same as the Coach is employed on the Landau Sedan with a gray upholstery completing the color scheme. In addition to the equipment which is standard on the other closed models, it has many distinctive features that make for beauty

The lever for operating the door latch is now located in the center of the door on the Oakland closed models



and utility. The head, cowl and tail lights are nickel plated, a visible gasoline gauge is mounted on the instrument board, nicked bumpers in the front and fender guards in the rear, motometer and wing cap, snubbers and special wal-

nut steering wheel are some of its other special distinctive equipment.

All closed models have double heading extending along the hood and cowl. Natural wood wheels are supplied on the Landau Sedan and Coupe, while the other three models have wood wheels finished in the respective body colors. Disk wheels may be had at slight extra cost.

Instrument board and steering column fastenings are concealed beneath the cowl on all cars. Instead of being located in the center of the steering wheel as formerly, the ignition switch and carburetor choke have been placed back on the instrument board within easy reach of the driver. The dimmer control, throttle and horn button are still retained in the center of the wheel.

All closed models have a stationary visor designed to harmonize with the bodies, dome light, crank type window regulators in doors and quarter windows, door locks, rear view mirror, window shades, automatic windshield cleaners and Fisher "VV" windshields. The open model is supplied with a hand operated windshield cleaner.

Checking Up on the Allowance Shopper

ST. LOUIS, July 18.—Frank C. McDonald, president of the St. Louis Automobile Dealers' Association, recently remarked that his company would be able to sell many more new cars than it otherwise would be able to sell—providing it submitted to the lure of paying fancy prices for old cars taken in trades.

There are plenty of prospective customers, said Mr. McDonald, but a large share of them want excessive trade-in allowances and the excessive trade-in allowance is a thing that promises steadily to fade away into the history of past practices on the part of St. Louis dealers.

One of the forces that has caused St. Louis dealers to take a more solid stand against foolish trade-in allowances is the educational campaign that the local dealer association has been waging among its members.

The chief instrument of the association's movement along this line is its Used Car Bureau.

Two Years' Test of Plan

This bureau has been in operation for nearly two years now and has proved conclusively, association members say, that it is a good thing. It is under the control of the Used Car Bureau committee of the association, composed of George T. Berry, president of the Berry Motor Car Co., Packard distributor, Jack Salisbury, salesmanager of the More Automobile Co., Marmon distributor, and Joseph T. Kellerman, salesmanager of the Hudson-Frampton Motor Car Co., Hudson and Essex distributor.

The work is divided into two parts, one covering the field of high-priced cars, that is from \$2,000 up, under the chair-

manship of Mr. Salisbury, the other covering the field of cars with prices ranging up to \$2,000, under the chairmanship of Mr. Kellerman. Mr. Berry is chairman of the entire organization.

A young woman is employed by the association to do the clerical work for this division. She sits at a telephone in the offices of the St. Louis Automobile Dealers' Association and each dealer as he appraises a car calls her up and gives her particulars of the transaction, detailing the make of the car, the yearly model, the serial number and the amount he offered for it.

Check Up on Buyer

Should the prospect go to another dealer, this merchant goes through the same process. Such a practice makes it impossible for a prospect to go from one dealer to another and say the first dealer offered more money than he really did, because the second dealer would only have to call the Association office to ascertain the truth.

There is no effort to fix prices. A dealer may offer any amount he cares to for any car and if the other dealers refuse to meet the bid he is at liberty to close the deal at that price.

\$8,000,000 CHRYSLER ORDER

DETROIT, July 18.—An order for \$8,000,000 worth of Chrysler sixes and fours to be delivered during the twelve months starting with July 1, 1925, to July 1, 1926, was recently placed with the Chrysler Corporation by the John H. Thompson Co., Chrysler distributors for the Detroit area.

Approximately \$2,700,000 worth of Chrysler cars have been contracted for during the months of July, August and

September. Since the announcement of the Chrysler four, orders have been coming in at the rate of 40 to 50 a day.

MOTOR DELIVERY FORMED

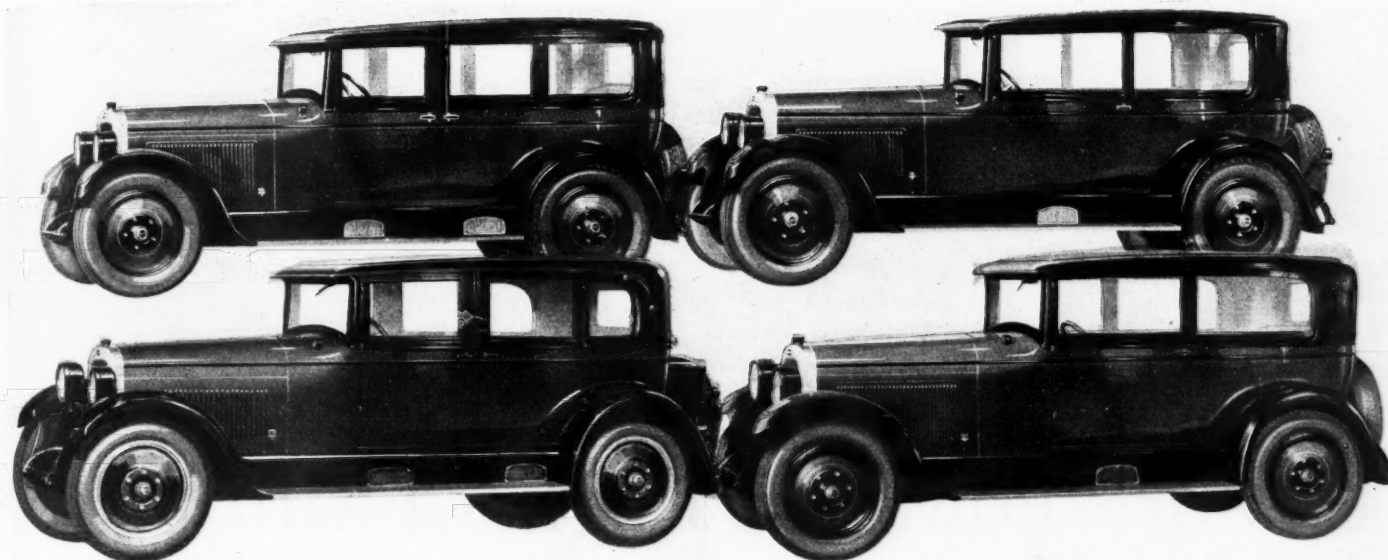
PEORIA, Ill., July 18.—The Rapid Motor Forwarding Co. has been launched here with offices at 213-215 South Water Street, and Edwin A. Watson, president, has secured James A. Burbidge as traffic manager. The Peoria station is the main office although a Chicago plant is maintained at 2619-21 South Michigan Avenue. Mr. Burbidge said that the system will be an innovation in carrier service, trucks making deliveries from door to door, guaranteeing delivering within 12 hours of receipts of parcels, the system covering any Illinois point on hard roads.

Jordan Reports Earnings of \$228,575 in Second Quarter

CLEVELAND, July 18.—The Jordan Motor Car Company has just finished the second largest quarter in the history of the company from the standpoint of volume, it was announced by officials today. With the Jordan Line Eight selling in the \$3,000 class, the number of cars delivered was approximately the same as the number delivered in the same quarter last year when Jordan was building sixes priced around \$2,300.

Earnings for the second quarter which totaled \$228,575.80 covered the dividends more than twice over. With no bank obligations and no other indebtedness and all current bills paid to date, Jordan has \$1,604,710.01 in cash and securities.

Quick assets as of June 30 totaled \$2,526,897.71. Liabilities totaled \$590,945.15, more than a four to one ratio.



Four of the new models in the Nash Special and Advanced Six lines. At the top are two of the Special Six closed models, while the lower ones are of the Advanced Six series. From this the similarity of the bodies can be noted

Eleven Bodies in New Nash Line

Announce Number of Refinements—Trunk Platform at Rear Has Been Eliminated

ELEVEN types of body styles four on the Special Six and seven on the Advanced Six chassis constitute the new line of Nash cars just announced. The particularly outstanding feature of the bodies on both the Special and Advanced Six is the similarity. Excepting for the size the bodies look very much the same.

In the Special Six line is a touring, roadster, four-door sedan and a two-door sedan, while the Advance Six line includes a five passenger touring car, seven passenger touring, roadster, two-door sedan, Victoria, four-door coupe, a seven passenger sedan. All models in both lines are fitted with balloon tires, five Budd disc wheels and four-wheel mechanically operated brakes.

Number of Refinements

Quite a number of refinements have been made in the bodies which are built by the Seaman Company and among other things the trunk platform at the rear has been eliminated adding length to the body which affords quite a bit of space in the interior. This together with widened doors and forward folding front seats gives ample space to get in and out of the rear compartment.

To add to the riding comfort the front seats are wider and deeper and adjustable so that passengers may regulate the tilt of the seats to any desired position. The adjustment is by knobs located in the floor. An added touch has been given to the appearance by fitting ebony toned moldings on the window frames of both the Special and Advanced Six five-passenger sedans and these models are

now both equipped with dome lights of colonial pattern and with the new type door latch and window lift. The latch on the left hand door is a combined opener and inside door lock.

Deeply crowned fenders have been added to the Special Six. The hood also is higher and better proportioned with high and narrow louvres. The radiator is finished in a heavier and higher polished nickel plate. All enclosed models in both series have the new French type roof and visor and the length of the cars is accentuated by a molding which runs the entire length of the body and hood.

Some change has been made in the location of the gear shift lever and hand brake lever whereby the latter is now placed on the left side of the driver while the gear lever is shaped so that it allows entrance or exit from either side of the car.

The instrument board layout on the Special and Advanced Six series has been refined and the lighting on the Special Six series is now done from beneath the car, somewhat similar to the arrangement of the Advanced Six. The instruments on the latter model have been supplemented by a gasoline gauge operating hydrostatically.

Several changes have also been made in the chassis of both series and outstanding of the chassis refinements is the application of an air cleaner on the carbureter. A heat treated steel band is now shrunk on the flywheel of both engines and the teeth are cut in this band. It is claimed by this construction injury

to the flywheel is impossible by incautious use of the starting motor.

All models in both series are now equipped with a new type of gasoline tank filler cap as well as a cap for replenishing the oil supply. These caps instead of having the conventional threads are fastened in place by a half turn. The front springs on all cars in both series are now equipped with rubber bumpers which materially add to the riding comfort when the car is passing over rough roads.

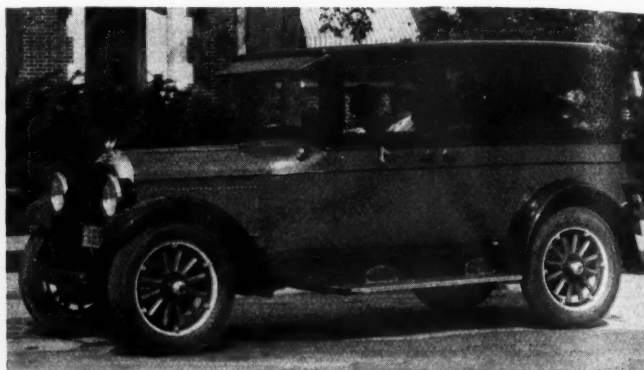
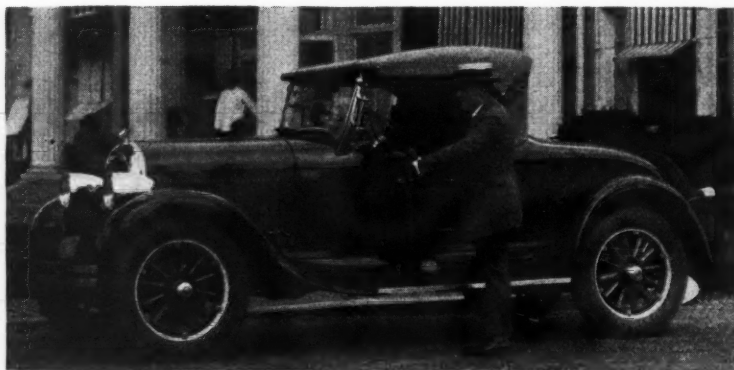
Equipped With Accessories

All open and closed models in both series are equipped with an automatic windshield wiper, rear-view mirror and many other items adding to the comfort and safety of the occupants.

In speaking of the introduction of the new models E. H. McCarty, Nash general sales manager said: "It can be disclosed that our plans for increasing factory production capacity still further have been completed and we are now entering into a period which will establish the heaviest production records ever achieved by the Nash Motors Company."

Mr. McCarty stated that sales and production by the Nash organization for the past 12 months averaged monthly close to 62 per cent over and above the high mark set by the same period of a year ago.

"Now, with these new Special Six and Advance Six models in our dealers' showrooms throughout the United States," remarked Mr. McCarty, "we are looking forward to seeing the coming months sweep far beyond the notable records achieved during the past twelve months."



Left: Chrysler Six roadster model showing barrel nickel plated headlights, nickel plated windshield, etc., as well as new design top. New colors also are a feature; right: New Imperial sedan revealing more rounded corners at rear of body

More Powerful Engine Features New Chrysler Six

Vibration Dampener Added, Single Plate Type Clutch as Well as Several Improvements in Chassis. New Colors Are Introduced

FINER BODIES in new color designs, a vibration dampener, added to a more powerful and refined engine, new single plate type clutch and several improvements on the chassis, characterize the latest Chrysler Six cars.

The revised list of prices follows: Phaeton, \$1,390; Coach, \$1,445; Roadster, \$1,625; Crown Sedan, \$2,095; Imperial Sedan, \$1,995; Brougham, \$1,865; Coupe, \$1,795; Sedan, \$1,695. Roadster prices remain the same. Other prices have been reduced.

Except for changes in the roadster design, a droop in the top line of the closed bodies towards the rear, rounding off the back corners and the new color schemes, the distinctive body lines which identify the Chrysler cars are retained.

In order that performance would be unaffected by the increased weight of the new improved bodies and other refinements, $\frac{1}{8}$ in. has been added to the bore of the engine which now stands at $3\frac{1}{8}$ in. in diameter. This change increases the rated horsepower from 21.06 to 23.44, the piston displacement from 201.4 cu. in. to 218.5 cu. in. and allows $8\frac{1}{2}$ per cent greater engine torque.

To balance the increased power, the crankshaft has been made larger and heavier. All seven main bearings are enlarged in diameter from $1\frac{7}{8}$ in. to $2\frac{1}{4}$ in., while $\frac{1}{8}$ in. has been added to the connecting rod bearings which are now 2 in. in diameter instead of $1\frac{7}{8}$ in. Corresponding increases in sizes have been made on all main and connecting rod bearing caps, studs and bolts.

Smooth operation at any engine speed has been insured by mounting a vibration dampener which is friction driven from the hub on the front end of the crankshaft, thus taking the place of the

former weighted lower fan pulley. The dampener is a simple automatic device acting as the secondary flywheel, the latter providing the drive for the fan.

Piston Design Modified

Of the same design but slightly modified, the pistons are now fitted with a pin of $1\frac{1}{8}$ in. diameter instead of $\frac{3}{4}$ in. and of greater length. Similar to the ends of the crankshaft, welch plugs instead of screw-in plugs are used to seal the ends of the hollow camshaft.

Wider by $\frac{1}{8}$ in. the face of the oil pump gears has been changed to provide the same oil pressure as used on the smaller engine, which represents an increase of the pump capacity by $12\frac{1}{2}$ per

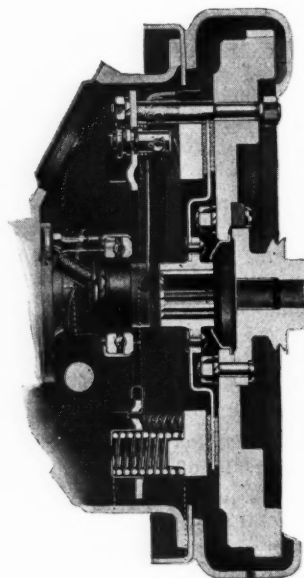
cent. At the same time, an improvement in the radiator or water pump has been made. If the oil screen should become clogged, the suction of the pump will open a valve held in place over relief holes by spring tension. This opening of the relief holes will allow the oil to come through the pump without passing through the screen.

Although no changes have been made in the radiator or water pump, the water capacity of the cylinder jackets has been increased to provide greater cooling for the engine. No changes have been made in the fuel system or manifold except that the intake of the Ball and Ball carburetor has been enlarged by $\frac{1}{8}$ in. Extra rigid front support of the engine has been accomplished by casting the legs integral with the timing chain case cover.

Into a slightly larger flywheel has been fitted a new and simpler type of clutch which is claimed to make gear shifting much easier, has greater capacity to resist heat and will stand considerable more wear.

In place of the former multiple disk type clutch, a single dry plate unit similar in respects to that used on the Chrysler Four, is employed. Comprising a pressure plate assembly having six springs, pressure is applied to a drop forged hardened steel splined hub to which is riveted the metal disk carrying the special woven asbestos cord facings. Three release levers provided with spring locked knurled nut adjustments are connected with the stationary sleeve which carries the clutch release bearing. A hole drilled in the bottom of the clutch housing permits any oil leakage from the rear crankshaft bearing, clutch release bearing or from the transmission to drain off.

To compensate for the added engine



Sectional view of Chrysler Six new single plate clutch

torque, the face of the transmission gears has been increased in size ranging from $\frac{1}{8}$ in. to $\frac{3}{8}$ in. larger. Instead of the stub type teeth which are customarily used, teeth are of full depth, thus giving larger rolling contact. By grinding all constant mesh and intermediate gears, smoother and quieter transmission operation has been obtained. The speedometer gears are now located under the rear main bearing where they operate constantly in a bath of oil. Because of the larger transmission case necessary to accommodate the new gears and shafts, the propeller shaft has been shortened while at both ends the flanges have been changed. The gear shift lever has been made longer to give greater comfort in changing speed while the pedals have been changed in shape and material. To make for smoother application, the emergency brake has been redesigned and in its new form incorporates several parts common to the four cylinder model. The diameter of the transmission brake drum has been increased by one inch.

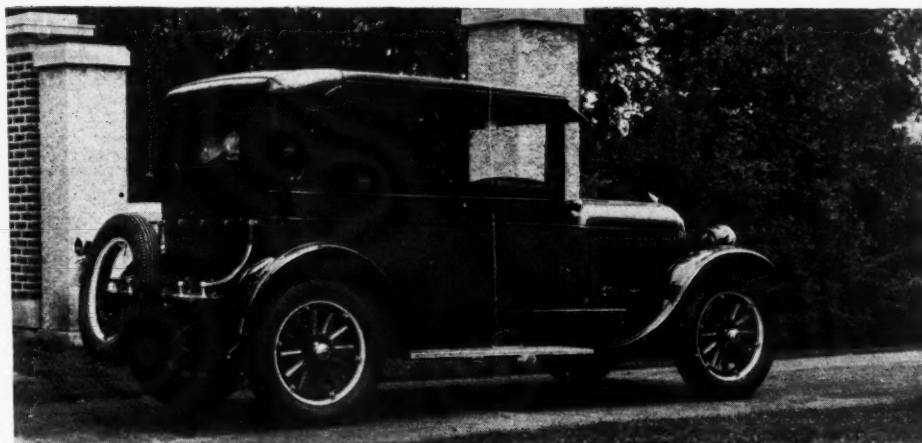
Rear Axle Housing Strengthened

In line with the other chassis changes, the rear axle housing has been strengthened and the differential carrier made more sturdy and rigid making at the same time for quieter operation. Both ring gear and pinion are now larger by $\frac{1}{4}$ in. and have the spiral teeth cut at a steeper angle forming a more substantial engagement. A change has also been made in the angles and capacities of the pinion shaft bearings as well as on the pinion shaft sleeve.

On the frame, the cross members have been altered slightly, the body holes are in new positions and the position of the battery box changed. As a result of the basic alterations on the chassis, there have also been changes in the design of the hood sills, radiator hold down bolts, dust pans, front fender brackets, muffler, exhaust and tail pipes.

Except for changes in the master cylinder body, tube leads and "T" fittings, there has been no alteration in the four wheel braking system.

Turning to the bodies, most changes have been made on the roadster model



Chrysler Six Coach showing top line lower at the back

which is now finished in two-tone drab, copra drab above the streamline bead and chickie drab below, set off with black molding and a fine flamingo carmine stripe. New bullet type nickel-plated headlights and nickel-plated windshield frames and stanchions give an added touch of dash. Both doors have been widened by $1\frac{1}{8}$ in. to afford easier access while the door of the golf club compartment now opens sideways instead of downward as formerly. The top bows which are now of wood, finished in walnut to match the steering wheel and new type of instrument panel, fit into nickel-plated thimbles, giving a neat finish. Directed to appeal to a growing number of persons who prefer to drive with the tops down, the latter cannot only be folded down neatly but are so designed to be readily detachable by those who desire to have no top at all. A new top material of taupe tan effect made of two ply rubberized fabric ensuring durability and waterproof features is employed. An automatic nickel-plated windshield cleaner is provided as standard equipment.

Distinctive Colors Employed

Plymouth and Pilgrim grays are used on the phaeton which is set off by a striking stripe of flamingo carmine. Long grain, bright finish waterproof material is used for the top which has a white

whipcord lining to harmonize with the Colonial gray ivory tinge soft leather of the upholstery. Side curtains are now of the same weight and material as the top and are equipped with new type of rods and stiffeners, the latter being steel reinforcements to hold the curtains more rigid and provide additional comfort in inclement weather.

A "D" shaped window in the rear quarter adds greatly to the appearance of the Crown Imperial, which is now finished in two-tone color schemes with a black upper structure. The belt is in Bagdad green and lower part of the body in Topango green while the striping is of gold bronze. In place of wood window molding, steel finished to resemble walnut is employed. The body trim is of gray mohair with head lining to match.

Little change has been made in the Imperial except that the interior fittings are the same as those on the Crown Imperial.

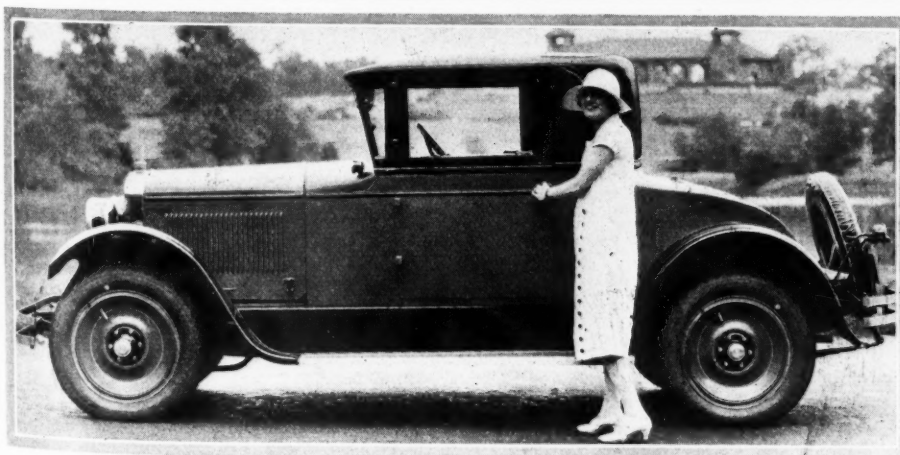
Body colors on the Brougham have been changed to correspond with those on the new roadster model, the interior being the same style as the Crown Imperial.

The new top lines and rounded corners on all closed models are more noticeable on the Sedan which also is finished in chickie drab, black upper structure and carmine striping. Its interior trim is of blue gray worsted pile fabric with a velour headlining.

On the Royal Coupe, the back window has been altered so that it can be lowered by a crank making it possible to converse with the persons seated in the rumble seat, the latter being raised 3 in. to provide greater riding comfort. A striking finish is obtained by using an Algerian Blue above the bead, Bambalina below the bead and fawn gray striping which harmonizes with the interior finish of blue gray mohair.

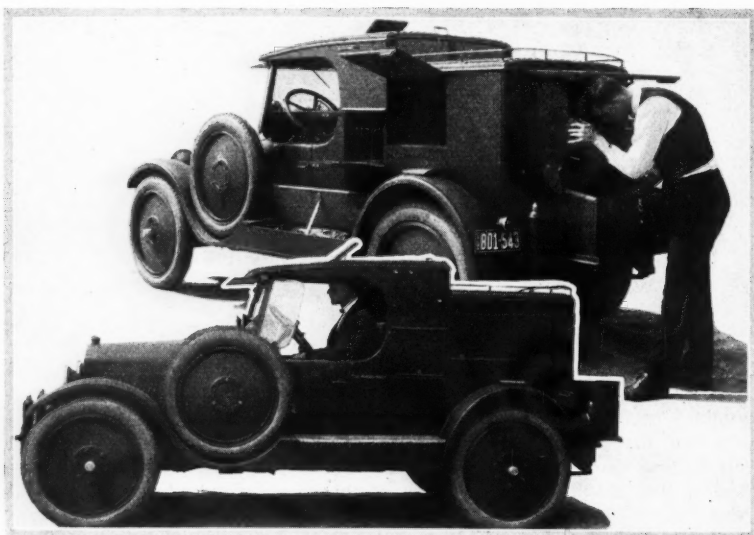
The color of the Coach has been changed to Thebea gray with fawn gray striping, which with the exception of the changes already mentioned as applying to all closed cars, remains the same as the previous model.

In addition, the doors of all closed models are fitted with the remote type of latch control which greatly facilitates the opening of the doors from the inside.



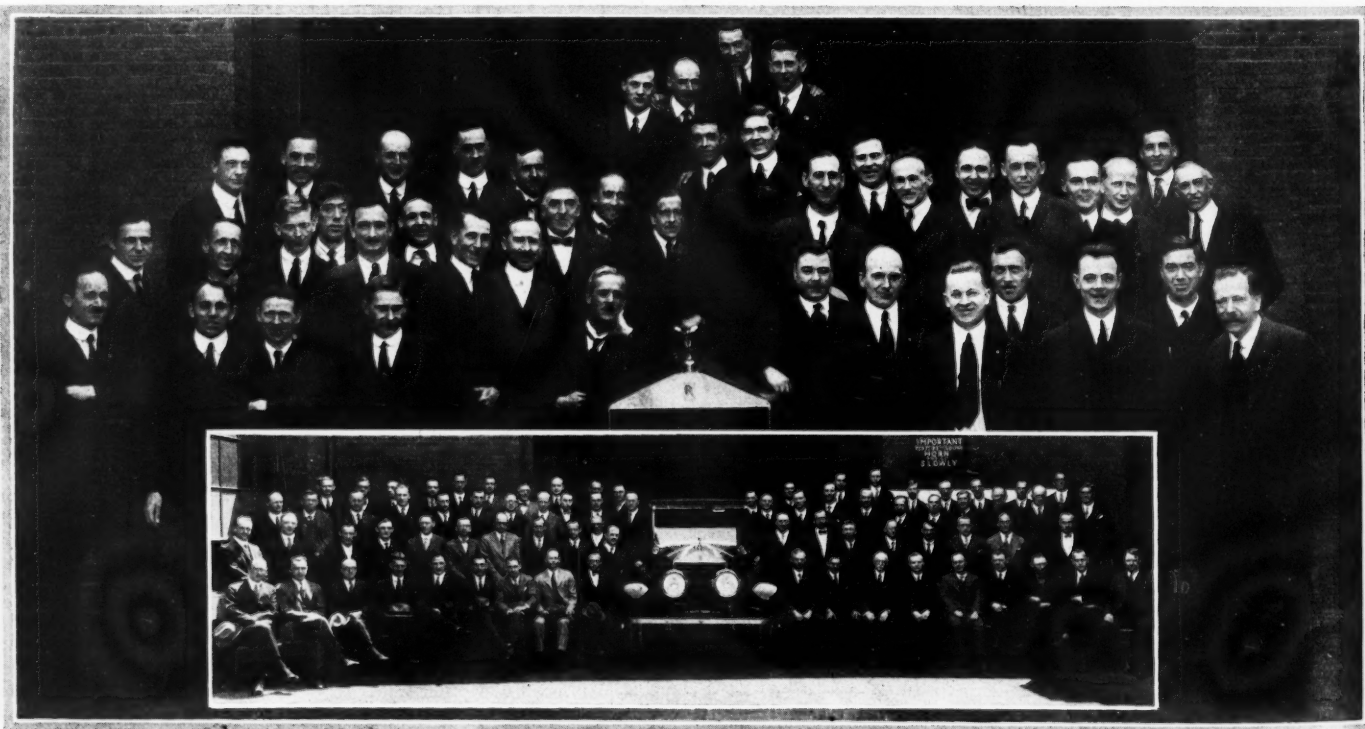
Gardner Foursome Cabriolet body mounted on the six-cylinder chassis. The company only recently announced a similar body on the eight-in-line chassis. The price including complete equipment is \$1845 f. o. b. St. Louis.

MOTOR AGE'S PICTURE PAGES



ADD CAMPING JOYS. Hart L. Weaver, San Francisco automobile dealer, built the special camping car shown at the left. It has an especially constructed compartment in which is carried an outboard engine for motorizing row boats and has a special top designed to withstand a "tipover." Guns and hunting equipment are carried in a special compartment, and there also is a place for fishing poles and tackle. The car is for the exclusive use of Mr. Weaver's employees.

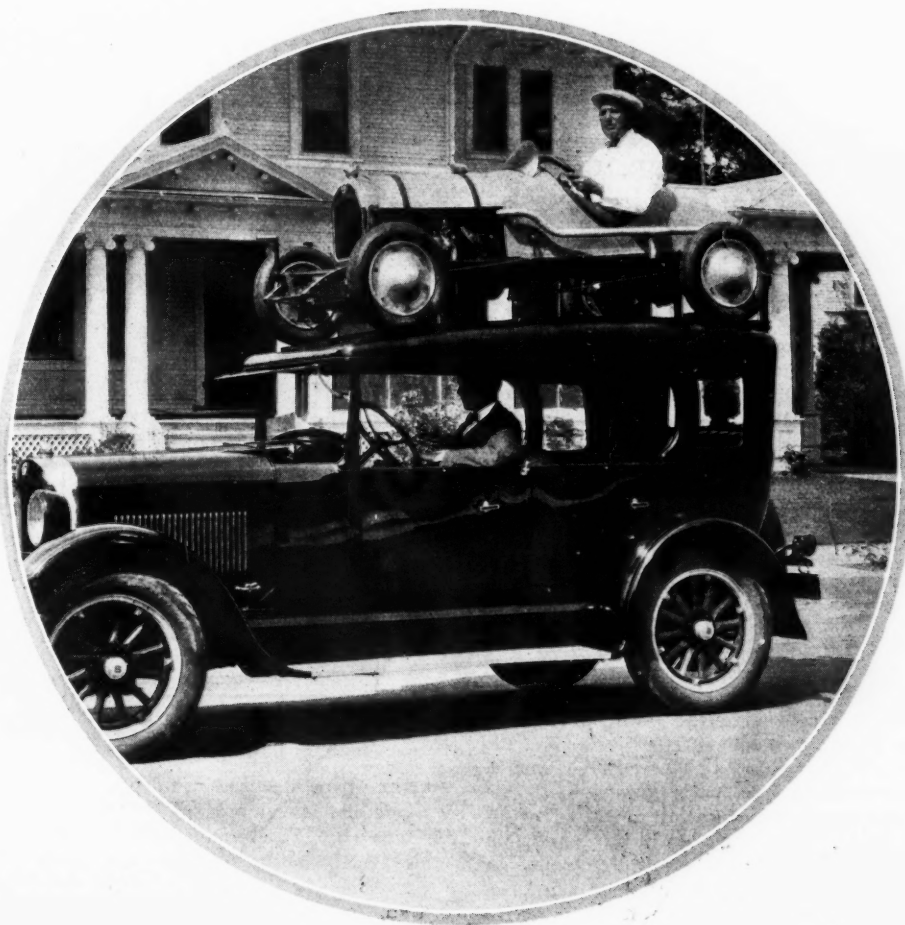
AT THE PITS. Italian Diatto stopping for repairs during 24-hour stock car road race, for the Rudge-Whitworth cup, held at Le Mans, France. A six-cylinder Lorraine Dietrich covered a distance of 1,388.1 miles at an average speed of 58.83 miles per hour. French, Italian, English and American cars were entered.



THE FUGITING OF TEMPUS. The large picture shows the first Rolls-Royce chassis made in America and some of the men, English and American, who produced it. In the group, which was taken at the Springfield, Mass., works in 1921, are 30 executives and experts selected from the staff of the company at Derby, England, to launch the American enterprise. The insert shows a 1925 model emerging from the works at Springfield, with most of the men who produced the first chassis still on the staff. Of the thirty and more Englishmen who came to the United States, not more than two or three have returned to the mother country.

OF AUTOMOTIVE INTEREST

THE ETERNAL OVERHEAD. One car atop another, to demonstrate the strength of the Studebaker Duplex-Phaeton body, attracted much attention at the Fresno, Calif., Raisin Day festival. In the baby racer on the top was seated R. K. Morey, manager of the Visalia, Calif., branch of the Chester N. Weaver Co. of San Francisco. The baby racer was built by Delmer Wood, a mechanic in the Visalia branch.



PUBLICITY PLUS. Display of the new Diana by Krause Motor Car Co., Moon dealer at 5200 Delmar boulevard, St. Louis. A living model impersonated Diana. The display attracted a great deal of attention. On some occasions three traffic policemen were required to keep the street open.



The READERS' CLEARING HOUSE

Questions and Answers on Dealers' Problems

BUILDING • ELECTRICAL • FLAT RATES
SHOP • LEGAL • PAINT & TRIM • ACCOUNTING

Gears That Sing and Oil That Clicks

Q.—We have a 1924 Jewett with metal timing gears that have become noisy. What would you recommend? M. F. Huffaker, Magna, Utah.

If this is a very slight rattle, draw up the water pump packing nut. If the rattle is very much pronounced, due to end play in the pump shaft, it may be necessary to install a new pump shaft bearing. If the gears sing as would be the case with improper meshing of the teeth, it may be necessary to install a new set of timing gears.

Q.—Describe the Vane type oil pump used on 1924 Jewett and state whether it is possible to take the click out of same. If not what kind of pump can I use that will operate without this noise?

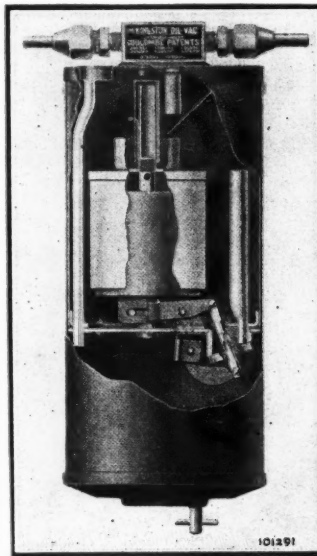
The Vane type oil pump is another way of describing the centrifugal pump, which has blades which in rotating carry the oil from the center to the outer portion of the pump, due to centrifugal force. We assume that this car is equipped with a Kingston Oil Vac fuel system and if this is the case, the click is due to a hydraulic noise. To see if this is the condition, have the engine running and then loosen the connection slightly which is on the pipe running from the vacuum tank to the oil pump.

You can loosen the connection at the oil pump end of this line. If allowing a slight leakage at this point overcomes the click, then you can remedy the trouble permanently as follows: Remove the nipple at the end of the line next to the oil pump and drill out the hole with a No. 60 drill. The hole in the standard nipple is made with a No. 70 drill. This slight enlargement of the hole in the nipple will overcome this condition. The appearance of the tank of the Oil Vac system is shown in the illustration.

LEAKS TWO QUARTS OF OIL IN TWENTY MILES

Q.—We have a 1922 Rickenbacker that leaks oil from the crankcase into the generator. The oil seems to work past the silent chain sprocket and back into the generator. At speeds of 30 or 35 miles per hour and higher the leakage amounts to one or two quarts of oil for every 20 miles of travel.—L. A. Williams, R. F. D. No. 2, Box No. 72, Bradford, Penn.

At the front of the generator there are supposed to be two felt washers and also a metal oil slinger, which is designed to throw the oil back and prevent most of it reaching the bearing. We suspect that at some time or other the generator has been overhauled and this oil slinger left off. The nearest American Bosch authorized service station, can take care of this requirement as far as these parts are concerned. If leakage occurs at the



Kingston Oil Vac fuel tank used on Jewett

starter it is necessary to place a felt washer and in some cases it is necessary to take the starter off and grind the metal surfaces to improve the contact.

MUD SPOT PREVENTION BETTER THAN CURE

Q.—I have found that after washing a new car and after it has been splashed with mud that it leaves a spot and if you could advise any remedy, I will certainly appreciate it.—R. E. Allen, Eufaula Motor Co., Eufaula, Okla.

We are sending you by separate letter the name of a polish which was given to us by one of the large service stations here in Chicago. The best remedy, however, is to prevent the occurrence and when it is necessary to have a new car go out in the mud and rain it is desirable to have it immediately put on the wash rack and washed off. If mud is allowed to stand on new varnish for any length of time there is a great chance that it will spot. It is possible that the mud contains either acid or alkali which affects the finish.

WANTS A CURE FOR A COFFEE GRINDER

Q.—We have a Ford car in which the transmission has been overhauled and it operates all right at low and high speeds. When the foot brake is applied however, it makes a snapping and grinding noise as though something was going to break.—C. Harper, Borough Garage, 679 McDonough Street, Brooklyn, N. Y.

The trouble is doubtless in the rear axle and is due primarily to wear in the thrust washers. The strain on the rear axle produced by applying the brakes is greater than when accelerating which probably accounts for the condition you describe.

Taking the Cooling Strains From Cylinder Castings

Q.—What method is used in curing the cylinder blocks used in Pierce Arrow cars?

To the best of our knowledge these are seasoned by being allowed to stand for a period of time after they are cast before the necessary machine work is done.

Q.—What method is used by Studebaker, Willys Knight, Wills Sainte Claire, Oldsmobile, Stevens Duryea, and Stearns.—Edgar F. Durnan, Jr., Grant Hotel, 753 Bush Street, San Francisco, Calif.

We are going to answer your question in a general way rather than specifically. Where a large production is necessary the time required and the space necessary makes seasoning an impractical method. Under these circumstances the same result is obtained by annealing the casting in order to take out the strain which is produced in the metal when the casting cools after being poured.

TIMING A 1919 CHALMERS

Q.—I am installing a new timing chain in my service car and wish you would tell the proper valve timing for a 1919 model C Chalmers. Give this information in degrees as well as inches.—Woods Service Station, Morse avenue, Westfield, Mass.

The intake opens on top dead center and closes 50 degrees after bottom dead center. Exhaust closes ten degrees after top dead center and opens 50 degrees before bottom dead center. Checking the intake opening and exhaust closing will be sufficient. You can get the exact top dead center position by measuring the piston travel. Turn the engine by hand until the piston has come up to within one-half inch of the top position. Note the position of the crank handle on the front of the radiator.

Turn the engine farther until the piston goes up to top dead center and goes down so that it is again one-half inch from the top position. Again mark the crank handle position on the front of the radiator. The crank handle position in between these two marks will give you the exact dead center position. Ten degrees is 1/36 of a complete revolution which would mean a one-inch movement of the crank handle if the crank were 5.75 inches long. For a longer crank it will be increased in proportion.

Q.—What would be the effect if the timing were one tooth early or late?

If the engine is timed too early there is a tendency for the exhaust gas in the cylinder to be slightly compressed and to cause a slight fluttering in the carburetor when the intake valve opens. On the other hand the timing which is too late is characterized by overheating and loss of power. The best timing is worked out when the engine is built and should be adhered to when it is repaired.

Planning Your New Building

By TOM WILDER

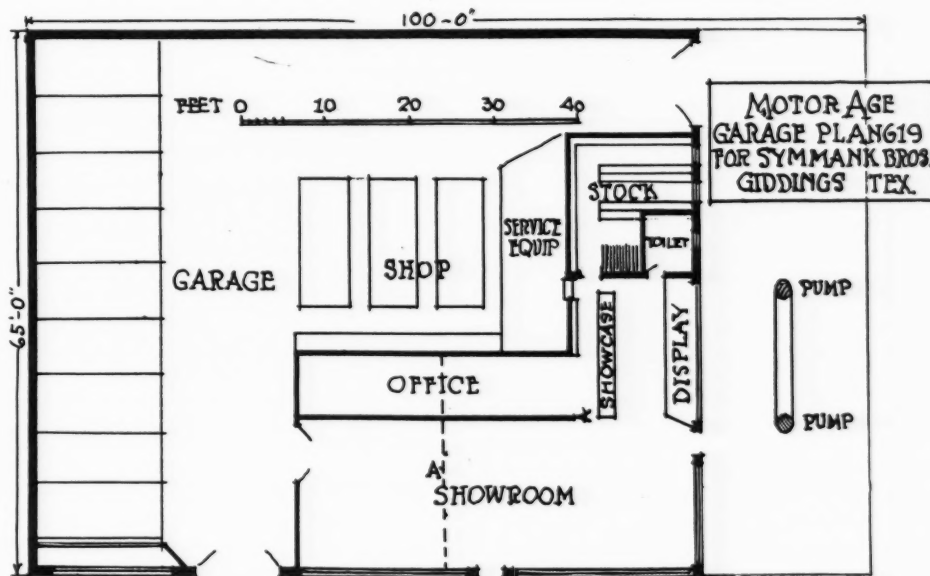


Replacing Two Old Frame Buildings

Q.—We note in your issues you give descriptions of how to build inexpensive garages. We have two frame buildings side by side facing east and south. Building on south side is on corner, frontage on both buildings being 65 feet and length 100 feet. We want to have a drive-in filling station on the corner and we also want to have showroom for cars, not forgetting display for accessories.—Symmank Brothers, Giddings, Texas.

Although you have not said so in your letter you no doubt wish to tear down the frame buildings which are on your lots. This would be almost necessary, if you build a drive-in filling station. Since the long side of your lot is on the front on the main street it would be better to install the filling station facing this street, but we found that upon doing this the space would be cut into seriously and the space left would be almost unusable, being too narrow at the rear and also at the sides. By placing the filling station at the end of the lot instead of the side there is a large square space left which will be much more applicable to garage purposes.

If you are desirous of having more storage space than we show in our plan, the showroom and office could be cut down to the line A giving room for four more cars. If you would be willing to eliminate the entrance on the side street,



Two entrances are convenient but waste space.

this space could be used for service equipment and another car could be serviced where the service equipment now is shown.

This plan will undoubtedly not be possible if you wish to use your old frame

buildings. It is however, a very good layout for a plot of this size and if it will not suit your convenience, write and tell us just what you have and we may be able to alter things somewhat so that it may still be used.

Legal Questions Answered—

By WELLINGTON GUSTIN
of the Chicago Bar

MUST LIVE UP TO GUARANTEE

Q.—Attached to the present letter you will find a copy of a letter written to a firm in San Francisco in regard to a deal we made with them. We do not know if we have the right to claim against that firm, and we want your advice in that respect. The history of the transaction is as follows: Early in April, we received a catalog from the firm. Attached to the catalog was a letter in which they offered entire satisfaction and a definite guarantee to the customer that would order second hand parts. We wrote them asking the price of new and second hand parts for a Cadillac Model 63-E-622. They answered, giving price of \$160 for new parts, and \$120 for second hand ones.

They said they were behind the used parts, assuring of the good condition they were. We ordered the parts used, and when they arrived here we found out that they were not as good as they claimed to be. We did not want to return them, because that means a great loss of time and we needed the car. When we tried to put them on the car we found out that the parts were for an older model and could not be used on the car we have. The carburetor intake flange is on a different way and the screws that hold the blocks to the crankcase are set different. We wanted to see if the cylinder heads were the same as the ones on the car, but they also will not fit. Now we are sending the letter, copy of which you will find attached, and, in case that the firm refuses

to back their offer, what shall we do?—Alfonso Rome Gandoulff, Aguascalientes, Mex.

Where a firm sells goods on a guarantee as stated, the buyer can hold the seller to the strict terms of the guarantee. Two remedies are open in the case you present. You can keep the parts and sue for the loss under the guarantee or you can return the part or parts and sue to recover the full purchase price. From your letter it appears that the parts ordered by you were not only not according to the guarantee, in that they were not in good shape as you desired, but they were actually not the parts ordered. So, if the parts are as you state, you have a good and valid claim against the seller for the full purchase price of the parts. If you are not able to get an amicable settlement of the matter then you will be forced to send your claim to attorneys at San Francisco for collection.

RECORD LIEN IN TENNESSEE

Q.—Does a mechanics lien hold good on cars in my state where there is a mortgage on the car held by another party? That is where the car has been allowed to be carried out of the shop without being paid the repair bill. The thing that I

want to know is if the car is good for the repair bill in a case of this kind.—Robert M. Smith, Parsons, Tenn.

Regarding the garagekeeper's lien in your state. He has a lien for repairs, labor and materials furnished, good for six months, and where suit on the lien has been brought within that time, the lien continues good until judgment has been obtained. This lien is not good against purchasers or other lienors who buy in good faith and without notice of your lien. Notice to all is given usually by recording the lien claim with the recorder of deeds, etc. This lien is good regardless of the fact that the repaired car has been returned to the owner. Now if another holds a valid mortgage on the repaired car, which mortgage was created and recorded before a repair lien was made and recorded, the rule is that the prior lien of the mortgage is superior to the subsequent repair lien. A few states have by statute attempted to give the subsequent repairman's lien a preference. The wording of the Tennessee statute would imply that the legislature did not intend to give preference to the repair lien.



Clearing Up Electrical

EDITED BY A. H. PACKER

Electric Welding and Rod Alignment

Q.—We have a 110 volt D. C. generator made for charging batteries of a farm lighting plant. This is a Western Electric generator and has three terminals. We would like to rig this up to do small arc welding jobs on fenders and light sheet metal work. Can you tell where to put the resistance and how much to use.—Nichols' Garage, Jackman Station, Maine.

We are showing two diagrams, one of which gives the general principle of the arc welding circuit and the other gives the general principle of the spot welding circuit. Ordinarily for arc welding a generator capable of developing 220 volts is recommended and a rather high current is also desirable. It is possible that you could use your machine however, for light work to which you refer. In the illustration of the arc welding circuit two pieces to be welded are shown in place on a metal plate which is connected through a resistance to the positive terminal of the generator. A carbon stick is then connected to the negative terminal and is used for the purpose of making contact with the joint to be welded.

Heavy Arc Will Form

When this is done a heavy arc will form and great heat will be generated at the work which is the positive end of the arc. You may have to experiment using iron wire in various lengths and sizes for the resistance unit. As the generator you have was not designed for this class of work we have some doubt as to the ability of the machine to stand up under the heavy current which is usually required for this work. In the other diagram the circuit indicates that your machine would be entirely unsuitable. In the first place an alternating current generator is required for the voltage must be reduced to from 3 to 5 while the current must be increased proportionately. Here the principle of current flowing through a comparatively high resistance producing heat, is used to form a weld.

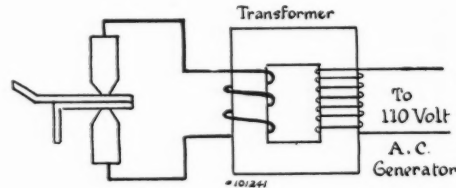
In the illustration we will assume that two pieces of sheet metal are placed between the copper electrodes, which when brought together permit a short circuit current to flow through the sheet iron thus causing a spot weld. From an experimental standpoint a weld of this sort might be made by using a battery as a source of current, but the battery would soon become discharged.

Q.—How can we line up the connecting rods on a Hudson super six so as to get the proper distance between the piston pin bosses. After the cylinder block is on, the piston will not come down through and we would like to know about the alignment before the job is carried this far. We have a connecting rod aligning gage.

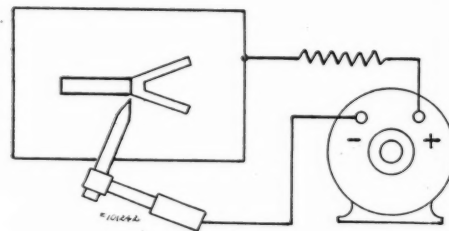
If you check up the connecting rods,

with reference to the lower end you will be still more nearly correct. However the check for twist and bend are the most important.

Then after the pistons and rods have been installed and the cylinder block is in place you can get under the car and see whether the upper end of the connecting rod has clearance at both sides



General scheme of spot welding circuits



Arc welding requires using a resistance with the generator

both for twist and bend before installing them you will have them about right. If you further check to see that the upper end of the rod is in its proper location as far as the piston bosses are concerned. It is not essential to have the rod exactly in the center. Then if you find that the rod touches one boss or is very close you can spring it away by means of a bar. This method while not ideal from a theoretical standpoint seems to work out all right in practice when the rod has been previously checked on an aligning gage.

THREE CYLINDERS ADVANCED—THREE RETARDED

Q.—I noticed our Pike's Peak Chandler engine had a peculiar rhythm some time ago, occurring at all speeds. It sounded as if the spark (magneto ignition) were retarded when three of the cylinders fired and advanced when the other three fired. An inspection of control rods and wiring revealed nothing out of the way and it was not until the general overhaul at five thousand miles took place that the cause of the irregular running was found.

I took the magneto off and found that the bottom cam had come unscrewed and was sliding about for a distance of $\frac{1}{2}$ inch. Dressing up the cam and inserting another screw cured the trouble, which many might have thought was due to improper carburetor adjustment.—J. B. Flynn, Mgr., A. B. C. Taxicab, 48 Domain Terrance, Spreydon, Christchurch, New Zealand.

We wish to compliment Mr. Flynn on his capable trouble shooting, for a job of this character might readily lead a good man astray.

Charging Batteries in the Land o' Lakes

Q.—Will you please give us your opinion on a complete battery charging outfit? We have an 850 k.w. Koehler automatic lighting plant which is too small for this work. Our battery storage was limited to about 30 last winter but is rapidly increasing each year and our Koehler has about all it can do to take care of the Radio batteries in use here. We are located in the land of the lakes and during tourist time we have considerable occasion for recharging outfits, the nearest battery station being 23 miles away. We are thinking of securing a four or six K. W. generator second hand, and drive same with a stationary gas engine or a Ford motor.

We prefer a Ford motor on account of the different ranges of speed obtainable which could be regulated according to the amount of current required. What is your opinion on this matter and how much power would be required to drive this generator.—Boulder Junction Garage, Boulder Junction, Wis.

Ford Engine Handles Either

A four K.W. generator is the equivalent of a 5.4 h.p. generator while a six K.W. generator is the equivalent of an 8 h.p. generator. The first will require about 6.7 h.p. to drive it while the second will require about 10 h.p. to drive it figuring an efficiency of 80 per cent. A Ford engine will handle either one, the larger type being about the maximum that the Ford engine should drive as a continuous load. If you can secure a Fordson engine it will stand up longer in this sort of service for it is built for heavy duty. What you refer to as an 850 k.w. lighting plant is probably an 850-watt outfit which is less than one k.w. The speed to run the engine would be about 900 or 1,000 r.p.m. while the generator would probably have to run about 1,800 r.p.m. Accordingly you would need to belt drive the generator with a 2 to 1 ratio having the larger pulley on the engine.

This would mean the necessity of some provision for taking the thrust such as an idler shaft mounted on large ball bearings, or at least plain bearings very well lubricated to take care of the pull of the belt. In getting a generator of this sort it would be desirable to have a field rheostat so as to control the voltage although as you say you can get some voltage control by reducing the speed below the rated speed given on the generator name plate. You would also need a cutout of some sort and we will give you name of concern making such a device, also name of concern having used generators for sale. With the cutout you might find that it will be necessary to maintain approximately the same voltage in order to have it work properly. In other words if you have a 32-volt cutout it will work with five or six batteries on the line but will not work very well if you have too many or too few batteries.

Trouble With Bill Fixit

EDITED BY A. H. PACKER



Franklin Circuits Wanted

Q.—Can you send me a wiring diagram of the electrical system used on Franklin car No. 90970-S. This may have been given in some of your publications of Motor Age but my old copies have been destroyed and are therefore not available.—Wade Stevens, Beaver City, Nebr.

According to our records this is a Franklin Series 9-B, a wiring diagram having been published on October 11th, 1923. As other MOTOR AGE readers will also doubtless be interested, we are publishing it again and also sending you a copy by letter.

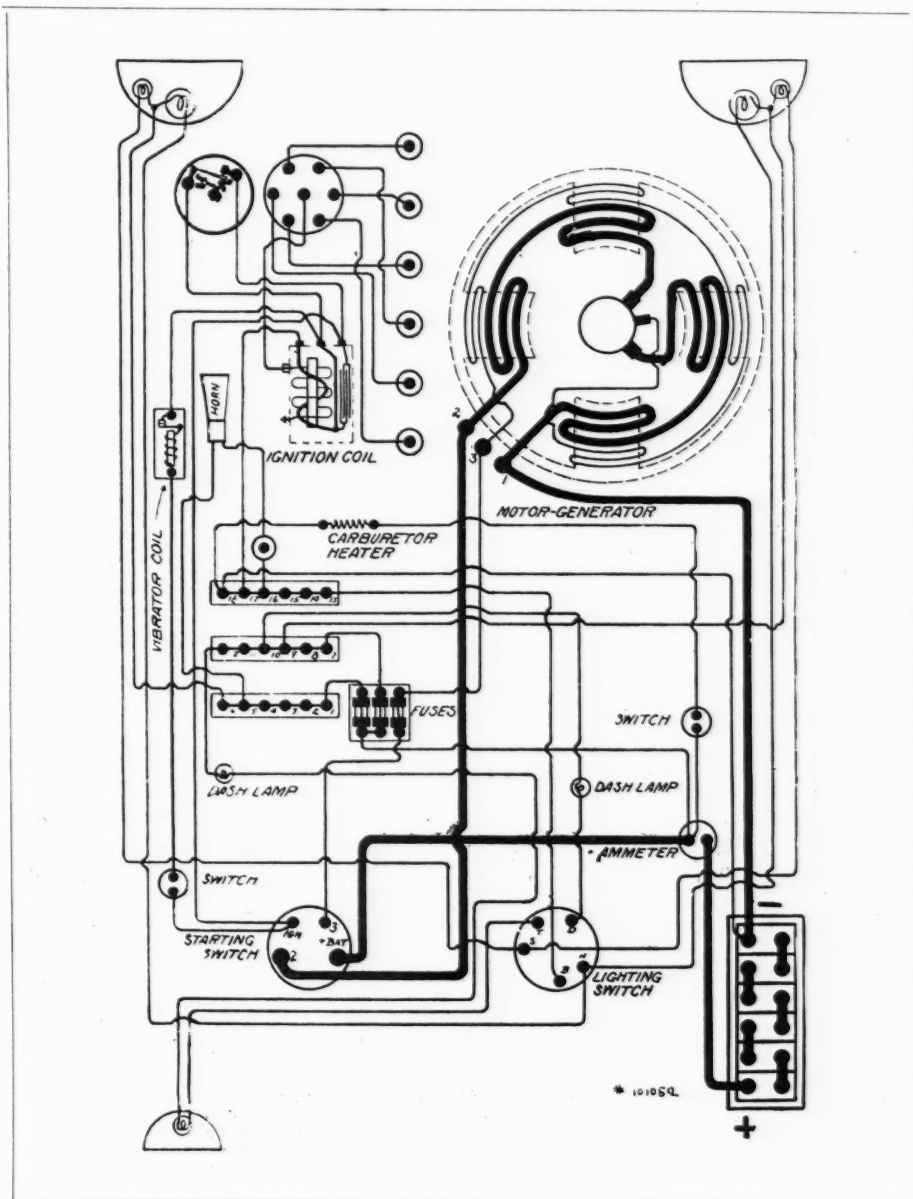
HOME MADE ELECTRIC LIGHTING FOR A GAS STATION

Q.—I want your advice on lights for a small filling station 5 miles from town. At present I am using three gasoline lanterns but as there is a lot of traffic at night I thought I might arrange for better lights in connection with a free air outfit. Here is the proposition; I do not want to put \$400 into a lighting plant and even if I had a plant I would have to buy an electric motor at a cost of \$55.00 to run the air compressor.

Now if I buy a 2 or 2½ horse power gas engine to run the air compressor would it be practical to belt drive one or two automobile generators and by using about two storage batteries have 6 or 7—27 or 32 C.P. lights for an average of three hours per night, with one to burn all night? Would there be much loss of current if some of the lights were thirty feet from the battery? What size and kind of wire is best for me to use? What size and type of air compression and tank is best for small place and what will be the approximate cost of such an outfit?—Texas Gas Station.

If the gasoline lanterns are of a type that we have seen they produce a rather high candle power so that it would take a rather heavy current to give the equivalent amount of light from electric light bulbs. The ordinary head lamp bulb for example which is rated at 21 candle power draws about 2.5 amperes from the battery and on this basis a 32 candle power bulb would draw about 3.8 amperes. To obtain the watts we multiply the current by the volts which in this case would be 3.8 times 6 or approximately 32 watts as the energy consumed by each lamp.

The ordinary small generator as used on average automobiles would be capable of lighting three of these lamps, but if you use six of them two automobile type generators would be required to balance the load. Of course if the lamps were required for three hours it would be possible with a storage battery to run the generator for six hours but we have some doubt as to the desirability of this scheme. For one thing we suspect that the light distribution would not be ideal. You might try out a single light and an automobile type reflector, hoisting it up in the air to see what the distribution is like. If the bulb is in focus you will have a bright spot of light on the ground underneath the lamp and around the bright



Wiring diagram of Series 9-B Franklin

spot the illumination will not be so good. Perhaps you can improve it by putting the bulb out of focus, that is either farther in or farther out from the reflector. If you have a battery, bulb and a reflector out of a Ford headlamp you can try this some night and see what the results would be. Generators for belt drives should have ball bearings, for the pull of the belt would rapidly wear out plain bearings.

If a generator such as a Ford is used it would be necessary to provide an oiler at the front end for normally this bearing is lubricated by means of oil from the crankcase. We would recommend using No. 10 wire and would suggest running separate leads from the battery to each of the lights. No. 10 wire has a resistance of 1 ohm for each thousand

feet. A 30-foot length of wire would then have a resistance of .06 ohms for the double circuit, that is the wire carrying the current to the lamp and the wire carrying the current from the lamp back to the battery. To find the loss we multiply this resistance by the current which gives us .06 ohms multiplied by 3.8 amperes or .23 volts.

In other words the voltage of the lamps will be approximately ¼-volt less than at the battery. If you would run the same pair of wires to three or four lamps there would be a greater voltage lost. If it is desirable to do this however, you could use larger wire such as No. 8 or No. 6. In regard to the air compressor, would suggest that you get in touch with concerns making this type of equipment.



Motor Age's Flat Rate Forum

EDITED BY B. M. IKERT

Selling Flat Rate Operations In Groups

SOME shops have not as yet cashed in to the fullest extent on the flat rate system when they have not made up a combination of operations to be sold as a group.

For example there are certain operations which lend themselves very well to grouping and a little time spent in working out such a group usually will be found worth while because it is quite easy to sell the whole job to a customer particularly when it is a matter of only a few dollars cost.

As is pretty well known there are operations such as engine and chassis lubrication which can be grouped and others taking in such things as tightening shackle bolts, spring clips, etc.

One Chicago concern which specializes in maintenance work on Hupmobiles has for example what it calls a Hupp Owners Economy Service consisting of thirty-two operations which as a group are sold at a flat price of \$10.00 complete.

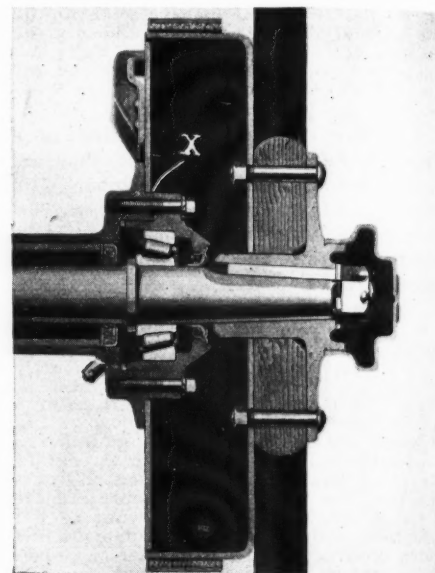
The thirty-two operations included are as follows: Change oil in engine, regulate oil pressure, lubricate generator and starting motor, adjust timing chain, lubricate steering gear, adjust steering gear, lubricate fan assembly, adjust fan assembly, lubricate clutch studs, adjust clutch pedal, grease universal joints, fill transmission to level, grease front wheel bearings, adjust front wheel bearings,

align front wheels, tighten steering spindles, tighten spring clips, paint springs with oil, tighten tie-rod bolts, grease Alemite system, fill differential to level, tighten body bolts, tighten all dash lines, tighten running boards, tighten fender bolts, adjust rear axle shaft nuts, flush and test battery, make lights burn, adjust tappets and points, tune engine, adjust carburetor and clean screens and adjust brakes.

The same concern, Hawkins & Bergland Maintenance Company, 2532 S. Wabash Avenue, Chicago, also has a Hupp Owners Special Service consisting of sixteen operations selling at a flat price of \$6.25. These operations consist of changing the oil in the engine, checking oil pressure, lubricate generator and starting motor, grease Alemite connection, grease universal joints, fill transmission to level, tighten all body bolts, tighten running boards, tighten fender bolts, make lights burn, flush battery, lubricate clutch studs, adjust brakes, paint springs with oil, align front wheels and road test.

The Right Way and The Half Baked Job To the Editor of MOTOR AGE:

The Flat Rate Manual issue of April 30th denotes a flat rate charge of \$44 for renewing engine main bearings in a Dodge Brothers car. Give your opinion



Rear wheel bearing adjustment on the Hupmobile easily is accomplished by the use of shims, as shown in the above illustration. Such constructions largely have cut down the time factor in maintenance work

either by letter or through The Flat Rate Forum of any method of doing this for \$12 flat rate. The method employed on the \$12 basis is to remove the pan and the bearing caps and drive out the upper bearing. The new bearings are then put in by sliding them around the shaft and then new lower caps are also fitted. Can this operation be successfully done in your estimation and if not what would be the result.—H. R. Reed, Service Foreman, A. H. Henneberger Company.

This is a method which may or may not work and it is a 100 per cent guess as to whether the upper halves of the main bearings are properly lined up. If they are not the tightening of the lower half will put a bend in the crankshaft and the bearings will rapidly pound out again. The local Dodge Brothers service station advises that whenever all main bearings have to be replaced the only safe way is to tear the engine down, although if only the center one needs replacing then there is a fairly good chance of getting by in the method suggested. When all bearings are replaced the shaft is rotated in the upper half and any bearing which is low is shimmed up with shim stock.

Finds Manual a Help

New Haven, Conn.

To the Editor of MOTOR AGE:

Enclosed you will find check for \$1.00 for two copies of the MOTOR AGE Flat Rate Manual. I think the manual is a great help to all garages running on flat rate. You deserve praise for your work on this manual.

—Frank N. Mason.

MOTOR AGE'S FLAT RATE FORUM

No. 23

CHEVROLET MODELS FOUR-NINETY, SUPERIOR AND UTILITY EXPRESS

FLAT RATES FOR BEARINGS, CONNECTING RODS, PISTONS AND PISTON RINGS AND PINS

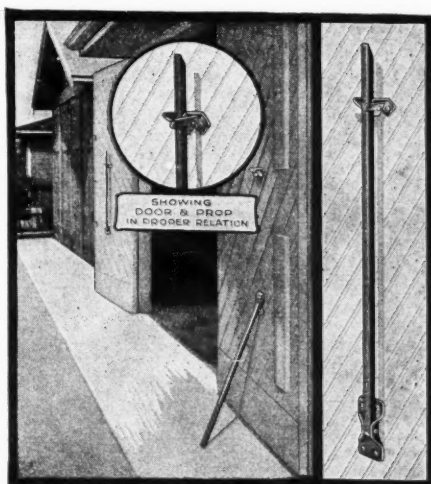
Manufacturer's Official Designation	Time Hours
43 Bearings—490 Motor. Tighten all bearings (Includes Operation No. 36-40-41)	3.9
44 Bearings. Same as Operation No. 43 on Superior motors	4.4
45 Cylinder Head, Under Pan and Oil Pan. Remove and replace (Includes flushing of oil pan, oil lines and adjust tappets)	2.5
(a) Grind and rescent valves	1.0
(b) Connecting rods and piston assembly. Remove and install one (includes the lining up of the rod removed and tightening the other three rods)	1.2
(c) Connecting Rod. Replace, refit and adjust one rod bearing and true up rod	.6
(d) Cylinder. Read and burnish one cylinder	.8
(e) Piston. Install and fit one oversize piston, 3 piston rings and one pin	.8
(f) Piston Rings. Replace one set of 3	.3
(g) Piston Pin. Replace 1 (Includes reaming and fitting)	.3
46. Connecting Rod and Piston Assembly. Remove and install 4 connecting rods and pistons. (Includes tightening and truing of 4 connecting rods and Operation No. 45)	4.5
(a) Main Bearings—490 motor—Tighten	1.0
(b) Main Bearings—Superior motor—Tighten	1.5
47 Piston Rings. Install 12 new piston rings (Includes Operations No. 45-46)	6.0
(a) Grind and rescent valves	1.0
48 Piston Pins. Install 4 new piston pins. Includes Operation No. 45-46	5.9
49 Piston Rings and Pins. Install 12 new rings and 4 pins. (Includes Operations No. 45-46)	6.8
Operations No. 36-40-41 referred to above are as follows:	
36 Under Pan and Oil Pan. Remove and install. (Includes flushing oil pan and oil lines)	1.5
40 Connecting Rod Bearings. Tighten. (Includes Operation No. 36)	2.5
41 Main Bearings—490 Motor. Tighten. (Includes Operation No. 36)	2.9

THE MARKET'S NEW OFFERINGS

Accessories—Equipment—Supplies

Properprop for Garage Doors

SERVING as a prop to hold the swing-ing garage door open and as a handle for opening the door when it is closed the Properprop is being made and marketed by the Bovey Automobile Heater Company, 3911 Prairie Avenue, Chicago. When it is desired to close the door the device is folded up into a door handle and held in position by a gravity latch. The Properprop is said to work equally well, in preventing a door from closing, on concrete, dirt or any other surface. One of its merits is in preventing the door from slamming shut when the car is being taken in or out of the garage. Price per pair \$1.25.



Properprop

ers. These reductions particularly affect package outfits including the new Schebler Model "S" Carburetor.

The Silent Salesman

TO facilitate sales of Tex-Oil Silencers and Fabroil Silent Tappet Adjusting Screws John C. Hoof & Company, 157 W. Illinois Street, Chicago, offers to furnish automotive merchants, without cost, a handsome display case for counter use. The company calls the case "The Silent Salesman" and it is sent to the dealer with an assortment of the items it is intended to exploit. The case, in orange and black, is made of pressed metal, with a glass top through which the customer may view the assortment. In the rear is space which may be used for storage of surplus stock.



"The Silent Salesman"—a counter display case



New Spring Control Device

Hassler Stabilizer

A NEW spring control device known as the Hassler Stabilizer has been perfected by Robert Hassler, Inc. of Indianapolis. The product is offered at present for such cars as Chevrolet, Dodge Brothers, Hudson, Essex, Buick, Overland, etc. It was created to meet the needs of peculiar spring reactions created by requirements of the balloon tire. Based upon the principle of "smooth friction" as opposed to "rough friction" it is said that the Hassler Stabilizer eliminates the jiggling sensation which is experienced when the balloon tired car is driven at certain speeds over uneven roads.

Another feature is said to be the quick recovery of the flexible member, or connecting belt, this accelerated recovery being urged as very important especially where balloon tires are used. The internal mechanism is sealed against mud, water, dirt and other destructive elements. A separate model has been developed for each make of car to which the stabilizer has been fitted. While the device is being made at present for a limited number of makes it is announced that it will be fitted to all other popular makes of cars.

Show and Demonstrate

And this bit of advice from the manager of a large sporting goods house to the clerks in that establishment:

"Don't be afraid to show or too lazy to demonstrate."

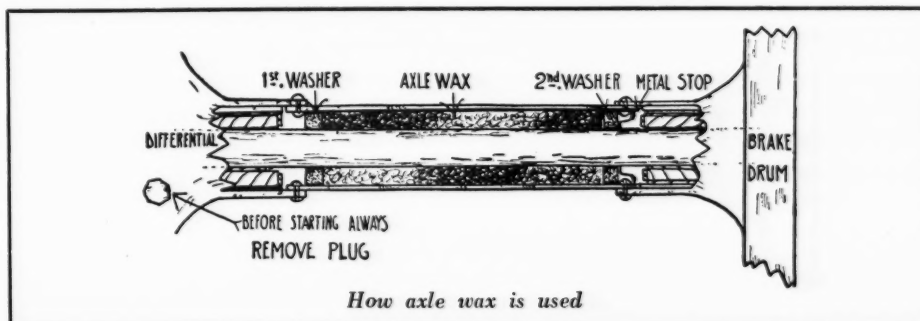
This sounds almost like the manager of the sporting goods house has had experience in running an automotive accessory store. And his advice to sporting goods sellers is excellent also for accessory store salesmen.

Rare types of patience in showing stock to prospective buyers can be found in any large department store. It is this patience and pleasant willingness to go the limit for a customer that makes the cash register ring. The accessory salesman must have lots of such virtues. It is well to remember that so long as the person being served is "interested" he is a "prospect."

EXTENSIVE price reductions on all Schebler package outfits for carburetor replacements on automobiles were announced July 1 by the Wheeler-Schebler Carburetor Company, Indianapolis, to all their distributors and deal-

Axle Wax

HUTCHINSON & Company, of Dallas, Texas, describe their Axle Wax as a "grease retainer on a new principle." It is a wax compounded preparation which goes in the rear axle housing for the stoppage of dope leaking. The substance is packed between the outer and inner bearing, filling the entire space between axle and housing. It is said to be a sure "stop," holding regardless of the condition of the axle or bearing. This preparation is packed in a tin can, each such unit including two fiber washers and one metal stop washer. Prices—touring, 75 cents; truck \$1.

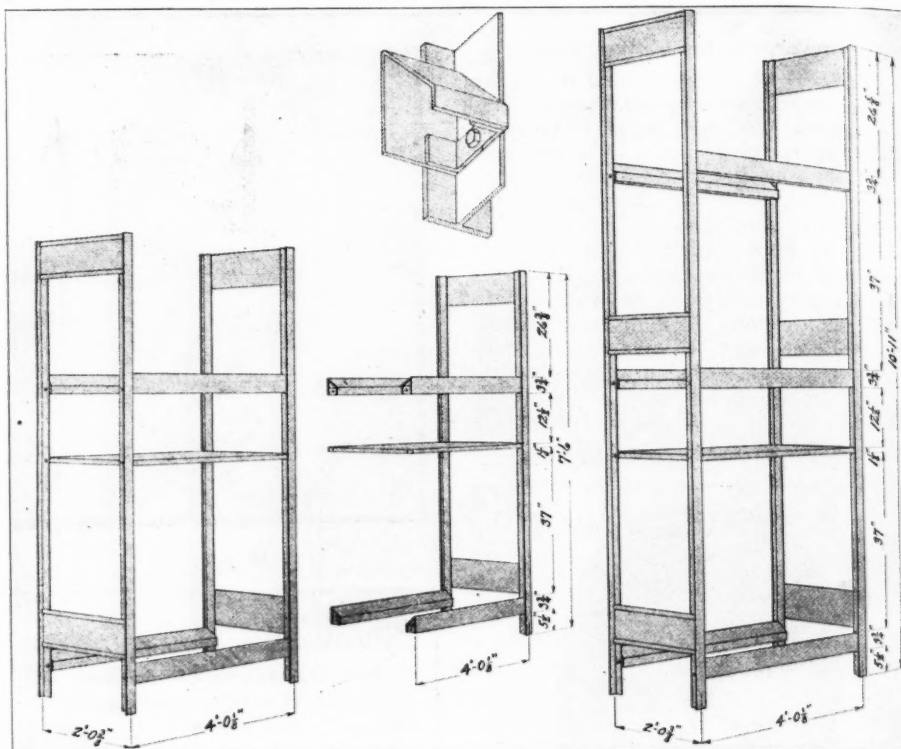


How axle wax is used

GETTING MORE OUT of the SHOP

Lupton Tire Rack

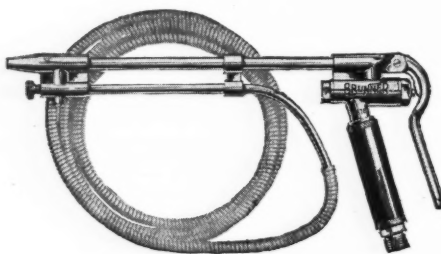
An addition to the Lupton line has been made in the shape of a new type 2 tier and 3 tier tire rack designed with particular attention to rigidity to resist sway in both directions. The uprights are heavy rolled T sections and each rack is equipped with a shelf for carrying tubes. The depth of the rack is properly designed to take tires from 30 inches in diameter to 36 inches, the distance in the clear being 37 inches, which makes it possible to handle cord and balloon tires on the same rack. The height of the 2 tier and 3 tier rack is 7 ft. 6 in. and 10 ft. 11 in. respectively, while the depth in each case is 24 $\frac{3}{8}$ inches. The total capacity based on 4 in. tires is 22 for the 2 tier and 33 for the 3 tier and each rack holds 36 tubes. Price for the first unit is \$20.00 for the 2 tier rack and \$31.00 for the 3 tier rack. The prices are based on a first unit and an additional unit making it possible to have a continuous tire rack in multiples of 4 ft. Additional racks cost \$16.00 for the 2 tier and \$22.50 for the 3 tier. The above equipment is made by David Lupton's Sons Co., Philadelphia, Pa.



New two and three tier rack recently introduced by David Lupton's Sons Co. It will handle cord and balloon tires.

Brunner No. 78 Engine Cleaner

This tool can be profitably used for cleaning engines and its balanced pistol grip makes it easy to hold without tiring or cramping the hand. The valve is leakless when closed and can be easily opened with but a slight pressure of the fingers. It can also be used economically for lubricating springs, eliminate



Brunner No. 78 engine cleaner

body and chassis squeaks, blow out clogged gasoline and oil lines, etc. To lubricate springs the tension is taken off the springs by a jack against the car frame, any rust, dirt or corrosion is removed with a wire brush and then a good grade of penetrating oil sprayed on the springs. This engine cleaner is made by the Brunner Manufacturing Co., Utica, N. Y.

Transco Aluminum Solder

This is a self fluxing solder for aluminum which flows at 355 degrees Fahrenheit, a temperature so low that there is no danger of distorting or burning the

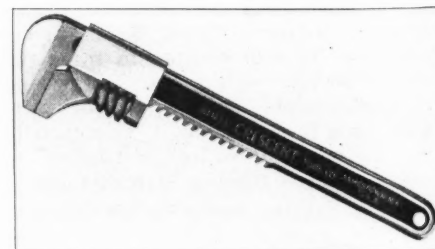
aluminum. The solder is non-electrolytic which means it is not affected by oxygen in the air or the oxides of aluminum. The solder will take a polish and when used on aluminum and then polished it is impossible to find the part soldered, it is stated. It is not affected by acids and it acts like a weld and when applied to aluminum drives out the oxides and becomes a part of the aluminum. In its application if a soldering iron is used the latter should be filed clean and tinned with half and half in the usual manner.

Transco X X brazing solder flows at 470 degrees Fahrenheit and is also self fluxing. It is puddled with a small flat tool instead of a brush, any tool similar to a screw driver being acceptable. It is especially suited to repairing cast aluminum parts such as crankcases, manifolds, etc. If it becomes necessary to repair a small sand or air hole, the Transco X solder can be used, but if a casting is cracked so it is hard to get the solder in place a V groove is filed in the crack and filled with Transco XX. The above solders are made by

L. D. Beck, manufacturer, 901 Irving Park, Blvd., Chicago, Illinois.

Crescent Auto Wrench

The Crescent Tool Company, Jamestown, New York, has introduced a new wrench known as the 019 which retails for 75c. Features of this wrench which is conventional in style include a drop



Crescent Auto Wrench

forged handle and jaw made from steel of a special analysis. The teeth are accurately milled to afford strength and easy adjustment. The adjusting knurl is turned from a solid bar of steel and hardened and a small spring pressing against the knurl holds the adjustment at the setting. The entire tool is hardened by a special process of heat treating and oil tempering. It is hand polished to improve its appearance. The total length is 9 in. with a capacity fully open of 3 in. The length of the jaw is 1 $\frac{1}{8}$ in.

PYROXYLIN FINISHES

Are you reading the instructive and comprehensive articles on the new pyroxylin finishes appearing in *MOTOR AGE* each week? You can't afford to miss these. Turn to pages 14 and 15 of this issue.

EDITORIAL

Why Is The Sticker?

IF an automobile dealer desires to profit by past mistakes in used car trading he must begin with an effort to analyze, in so far as possible, the mistakes of which he has been guilty.

While this can not be done comprehensively one way for the dealer to get a fair line on past errors of judgment is by making a study of the "stickers" in comparison with cars that move more readily.

Just why have certain cars been "stickers"? The answer to this question often will give the retailer some valuable suggestions for application in future transactions involving used car trades.

In the great majority of cases the "sticker" fails to move because of poor initial judgment in making the allowance when it was taken in. Very often in order to sell it the price is cut to a point below possibility of profit—which is a confession that the house was out-traded when it agreed to accept the car at the terms of some bargain-driving owner determined to shift a loss, properly his own, to other shoulders.

When a car is priced right aggressive merchandising effort usually will place it in the hands of a buyer. If the dealer prices it too low for a profitable sale, just to get it out of the way, he is certainly paying a premium on a previous blunder.

Buy them right in the first place and selling them profitably becomes a much more simplified matter.

Study the stickers comparatively with the better sellers. They are always with you *for a reason*.

If that reason is chargeable to error or folly on the part of the house you want to know it for the purpose of future guidance.

Success, in the first place, is erected largely with the lessons we learn from our mistakes.

1926 Models

AND now for the 1926 models. Factories will be announcing the new offerings from time to time as usual at the seasonal period. Ordinarily the announcements are followed by more or less stimulated sales and it may be expected that the 1926 models will deliver a certain merchandising impetus.

Harking back a year we see a different condition in many quarters of the trade as the new models were about to come forth than we behold today.

When we hit the new model introductions in 1924, heralding 1925 designs, many dealers still had on hand cars of 1924 vintage in numbers embarrassingly large. As you went about among them you heard considerable sour comment about the practice of "yearly models" which they said were so often catching them in a bad position.

Whether bringing out new models each year will continue permanently as an outstanding feature of factory

policy only the future can reveal but this much is certain—dealers will complain less about yearly models this year than they did last.

And they will never be so inclined to complain about the policy of yearly models if their floors are well cleared of the previous year's cars when the new models are introduced.

The yearly introductions of 1926 designation will be given full advantage to show what selling impetus they are capable of engendering.

A Campaign in Huntington

AUTOMOBILE dealers in Huntington, West Virginia, recently launched a "Buy a New Car This Year" campaign. The idea is to keep constantly before the public the thought suggested in the slogan. Through consolidation of efforts it was agreed that a considerable awakening of public interest could be aroused and most likely the campaign will cause people of that locality to "think" more about buying new cars than would be the case without this reminder. While people do not always buy the thing they think about we know one thing for sure—they never buy the thing they don't think about. This Huntington campaign is to set the folk to "thinking"—and keep them thinking.

Automobile Merchants

ONE of the factories announces the appointment of new automobile "merchants" for its line. There is compelling charm in that word. Assuredly these "merchants" will be known popularly as automobile "dealers," but more specifically they are "merchants" and the more they commit themselves to that impression the more they are apt to conduct their establishments as real merchandising institutions.

In noting the obsolescence of the word "dealer," as used in this sense, Webster's recognizes a distinction which is worth more than passing thought. Pursuance of custom will maintain the "dealership" in popular use but in treating with his own business it is well for the "dealer" to bear constantly in mind that while a "dealer" in the popularly accepted sense he is first and foremost an automobile—merchant.

Oregon's Anti-Theft Laws

OREGON has fallen in line with enactments intended to curb automobile stealing. One of the new statutes makes it a criminal offense to tamper with a serial number with intent to defraud while another requires that all applications for licenses shall be accompanied with certificates of title. Both laws, as drawn up and passed, seem to cover their objectives adequately. They are laws which work well together and which, if rigidly enforced, should do much toward a reduction in automobile thefts.

Automotive Production at Low for Year

Sales, However, Continue Good And Optimism Is Predominant

Business for Second Half of 1925 Predicted as Good or Better Than First Six Months

NEW YORK, July 20.—Production of motor vehicles is at low ebb for the year, due to seasonal closing down of plants for vacations and inventories, but reports from all sections of the country show that sales continue heavy and many in the industry are optimistic enough to predict that business for the last six months of 1925 will prove as good if not better than during the first half of the year.

Domestic production in June was 364,806 cars and trucks. This compares with an output of 249,868 in June of 1924, but it is slightly below the June, 1923, figure, which was 376,000.

It is not expected that July production will approach that of June, especially since several of the biggest manufacturers including Ford are operating part time during the taking of inventories, but there is as yet no very definite indication that sales are slackening up.

As a matter of fact the demand for motor vehicles remains so firm that many companies which otherwise would slow down at this period of the year are compelled to keep going at capacity to keep up with unfilled orders on their books. One factor which is interfering somewhat with production is the inability of the manufacturers to get sufficient closed bodies to meet the demand.

An outstanding feature of the automotive industry so far this year is the great earning power it has displayed. Financial statements covering the first six months of business evidence an extremely healthy condition. This is due in large measure to the fact that producing companies have kept their manufacturing geared closely to demand, thus keeping finished stock-end inventories lower probably than ever before.

Fresh buying activity is expected to develop with the coming of new models, beginning this week. Nash and Oakland are bringing out new lines and Chrysler is announcing important changes in the six-cylinder models. Along with the new models will come some price changes.

In discussing prices, it is interesting to note that practically all manufacturers have reduced the cost of their cars since January. The cuts in some instances have amounted to as much as \$800 on higher class jobs, but despite these reductions profits have never been more satisfactory. Makers of commercial vehicles, trucks and buses, report an unusual volume of business. Buses, especially, are selling far in advance of a year ago. Accessory and specialty manufacturers are working at capacity to keep pace with the demand.

A. A. A. Standings

1. DePaolo	2500
2. Milton	1070
3. Hartz	780
4. Cooper	555
5. Lewis	465
6. McDonogh	405
7. Elliott	330
8. Shafer	245
9. Comer	204
10. Duray	135
11. Kreis	117
12. Batten	110
13. James Hill	55
14. Bordino	54
15. Bennett Hill	50
16. DePalma	46
17. Shattuck	35
18. Devore	21
19. Hepburn	16
20. Mourre	11

Sales of \$117,045,569 By Dodge Brothers Set Record

Increase of Business Over First Six Months of Last Year About \$10,000,000

DETROIT, July 18.—Net sales of Dodge Brothers, Inc., passenger cars and parts totaling \$117,045,569 for the first half of the present year established a new high record. Net earnings after depreciation but before deducting debenture interest and federal income taxes were \$16,487,891. This is more than \$2,000,000 better than the estimate made earlier in the year.

For the half year, preference dividends were earned four times over, and after deducting all charges, taxes, bond interest and preference dividends the company earned at the annual rate of \$9.48 on its 2,000,000 shares of outstanding common stock.

Earnings of Dodge Brothers, Inc., combined with those of its predecessor company for the six months ending June 30 as compared to the same period last year follows:

	1925	1924
Net sales—		
Cars and parts	\$117,045,569	\$107,250,350
Earnings from sales	15,129,205	8,592,774
Net earnings after depreciation but before deducting debenture interest and federal taxes	16,487,891	9,111,099
Other earnings	1,358,686	508,325

In a statement of earnings sent to stockholders by Frederick J. Haynes, president, was the company's initial dividend check on its 7 per cent preference stock. This dividend, which inaugurates quarterly payments on the stock, amounted to \$1.75 per share payable July 15 to stockholders as of record July 1.

Yellow Cab Merger to Come Before Stockholders Aug. 18

Hertz Believes All Holders Will Readily Agree to Consolidation With General Motors

CHICAGO, July 23.—Ratification of the recently announced plan to merge the Yellow Cab Mfg. Co., with a division of the General Motors Corp., will be acted upon by Yellow Manufacturing stockholders at a meeting set for Aug. 18. The stockholders' meeting will be held in Portland, Maine.

Meanwhile proxies are being prepared to mail to stockholders. Indications, it is said, are that the two-thirds vote necessary for the ratification of the proposed merger will be forthcoming.

"We have every reason to believe that our stockholders are overwhelmingly in favor of the merger," said John Hertz, who engineered the deal and who became chairman of the board of directors of the new corporation which is to be known as the Yellow Truck & Coach Mfg. Co. "I believe that the stockholders of the Yellow Cab Mfg. Co., realize that our plan is the most logical combination of interests. This is not a deal arranged for a few insiders, but is one which is calculated to benefit all concerned."

"The merger plan was handled direct by representatives of both sides. There was no intermediary. Consequently no one individual will especially benefit by it, nor will anyone receive any commission or a bonus of any kind."

While the merger will result in voting control passing into the hands of General Motors the destiny of the Yellow organization remains with Mr. Hertz and his associates under the arrangement. Active management of the new company will be almost entirely in the hands of the present Yellow Manufacturing officers and the present management will also have majority representation on the new board to the extent of thirteen out of twenty-one members, the other eight being directors of General Motors.

STUDEBAKER ADDS MODELS

SOUTH BEND, Ind., July 13.—The Standard Six line of the Studebaker Corporation now includes a sport phaeton listing at \$1255 and a sport roadster listing at \$1235. Both models are finished in a dark gray lacquer, and have leather upholstery. The equipment of these new models is identical with the Duplex roadster and Duplex phaeton, but in addition they are furnished with a spare tire, a front bumper, and a motometer.

DUESENBERG PHAETON \$6,850

INDIANAPOLIS, July 8.—A new price of \$6,850 for the five-passenger phaeton model has been announced here by Duesenberg officials.

Wisconsin Rubber Factories Unhurt by Climbing Prices

National Association Plans Conservation Program—No Immediate British Relief Seen

MILWAUKEE, July 18.—Wisconsin's big rubber factories have not yet felt the pinch of soaring crude rubber prices, according to an investigation made among leading units in the industry in the state. Immunity from price increases to date has been due to fairly liberal supplies on hand in the majority of instances.

"The boost in raw rubber means the producers will be compelled to conserve present supplies to the best of their ability," said H. A. Githens, sales manager of the Federal Rubber Co., division of Fisk. "Earnings ought to be fair on prices received for tires manufactured from crude materials for which from 35 to 50 cents per pound was paid. Tire prices advanced in May, June and on July 1, and it may be necessary to again increase the prices if the market for raw material does not cease to skyrocket. Conservation of supplies and curtailment of production seem to be the only methods that can keep prices down right now. We have about 2,200 men employed at our Cudahy plant and have not yet thought of following the lead of some of the small producers who have already curtailed or shut down."

L. T. Vance, vice-president and manager of the Ajax Rubber Co. of Racine, Wis., which employs between 1,300 and 1,400 men, asserts that raw rubber growers in Java and Sumatra have largely increased production since the prices reached high figures. Mr. Vance expresses the conviction that maintenance of the ruling prices of this period will result in higher tire prices.

L. H. Sheperd, vice-president and sales manager of the Racine Horseshoe Tire Co., described the present high price of raw rubber as "speculative." Salvage plants are doubling their capacity since the advent of high prices, he pointed out, but asserted that the life of the built-up tire is nearly twice as long as that of the rebuilt tire so that the factor of dependability assures the industry of little relief from this source. Tire prices will go up, Mr. Sheperd says, unless crude rubber prices come down. Only companies forced by lack of stock are paying the holdup prices for crude rubber now prevailing, in his opinion.

CONSERVATION PLANNED

NEW YORK, July 18.—A. L. Viles, secretary of the Rubber Association of America, has paved the way for a special sub-committee to make drastic recommendations to the industry with the idea of conserving rubber.

The committee will be appointed probably this week, as the result of a special meeting here a week ago when directors determined to abolish the "spring dating purchase plan." Under this arrangement orders for crude rubber were placed in

Aviation Oil Found in Crickets

WASHINGTON, July 18.—It appears that a very precious oil, suitable for aviation, since it does not congeal even at a very high altitude, can be extracted from crickets, says consular advices to the Department of Commerce from Algiers.

Recently about eighteen tons of crickets were sent to Holland from Algeria. Part of this quantity was utilized for feeding poultry, and from the remainder the oil for aviation purposes was extracted and has apparently given every satisfaction.

the autumn, ordinarily in November, for delivery of rubber at the seller's option, up to March 1. In some cases settlement for the invoices was carried until June.

Elimination of this plan, Mr. Viles explained, undoubtedly will cause manufacturers to make larger use of their current stocks of rubber.

It also is intended by the manufacturers to clear out the stocks on hand of odd-shaped and odd-size tires. The sub-committee will recommend the reduction of types and sizes and will be specific in every point in its plea for drastic conservation.

NO TARIFF REDUCTION

LONDON, July 11.—(By mail.)—With the price of crude rubber four times what it was in the spring of 1924, the British government is not inclined to consider that it justifies reconsideration of the existing ordinance restricting the output of the Malay Peninsula.

W. G. A. Ormsby-Gore, parliamentary under-secretary for the Colonial office, replying to questioning in the House of Commons, said the legislation originally was drawn to restrict export, not production. Admitting that the existing price of rubber was a surprise, Ormsby-Gore said that it would bring an automatic increase in the amount of rubber for export August 1.

Nevertheless, if the prevailing high price continues, the situation would be re-examined, the Under Secretary added. Legislation would be necessary in the Straits Settlement, the Federated Malay Settlements, the Federated Malay States and Ceylon, to increase the percentage of August 1 by 20 per cent instead of 10.

Rubber soared to 4 shillings, 2 pence (about \$1.00) today. Last spring the price was about a shilling a pound. The present price is the highest since the famous rubber boom in 1910.

Goodrich and Ames Holden Expand Canadian Projects

KITCHENER, Ont., July 18.—Completed plans for the expansion and development of the Goodrich and Ames Holden products have just been put into

Goodrich Raises Tire Prices For Fourth Time This Year

Automobile Pneumatics Jump 10 to 15 Per Cent—Other Companies Expected to Follow

AKRON, O., July 18.—The B. F. Goodrich Co. today initiated the fourth tire price increase since crude rubber started its phenomenal rise early this year.

Announcement is made by Goodrich officials of advances of from 10 to 15 per cent in prices of all pneumatic and balloon automobile casings and 15 per cent on inner tubes. Solid and cushion tires are boosted 10 per cent.

While official announcements were not ready it is learned that executives of other companies are prepared to meet the Goodrich advance. The new schedules became effective today.

Simultaneously with the announcement of the latest tire increase, crude rubber soared to a new peak of \$1.17 a pound, the highest price reached in the last six years.

Prices of tires sold as original equipment to the motor car manufacturers also have been advanced from 40 to 60 per cent, it is announced here. The higher tire prices have increased car costs from \$5 to \$25 and, while this must be added to future car selling, it is not believed automobile prices will not be raised immediately.

Tire manufacturers say that several of the volume automobile producers have contracted ahead for tire requirements throughout the last half of 1925. Many other car makers, however, are being forced to pay higher prices for their original equipment. Furthermore, the tire companies are showing reluctance in making long term contracts for future delivery to the automobile manufacturers.

Under the new arrangement the B. F. Goodrich Rubber Company, Ltd., now becomes a sales company with separate warehousing facilities while the Canadian Goodrich Company is now mainly concerned with the engineering and production of tires.

With Kitchener as the headquarters of the sales company premises at the corner of Waterloo and Victoria Streets formerly occupied by the Canadian Consolidated Felt Company have been taken over. Tentative arrangements to obtain additional premises have been made to take care of increased business.

The manufacturing company is now known as The Canadian Goodrich Rubber Company, Limited, and its products in the way of tires, footwear, etc., are turned over to the sales warehouse. The sales company is also planning distribution of the Ames Holden product. Distributing warehouses under the direction of the new company are being maintained with complete stocks at important centres throughout the Dominion of Canada.

Greater Activity Is Expected to Result From Big Merger

Leaders of Industry See GMC Trucks and Yellow Buses Making Strong Bid for Leadership

DETROIT, July 18.—In the recent General Motors Corporation and Yellow Cab Manufacturing Company merger, those in the automotive industry in the greater Detroit area see GMC trucks and Yellow buses making a strong bid for the leadership in their respective fields.

Two reasons are given to support their claim, one is that General Motors is well equipped to operate on a large basis and the other is that Yellow Cab distributing facilities are exceedingly good. Under the new company, The Yellow Truck and Coach Manufacturing Company, these two factors can be operated to advantage.

Turning over of Northway Motors and GMC truck divisions to the new company will give these two companies an outlet for their products, especially Northway Motors. It is well known in local automotive circles that both plants had been operating at but 10 per cent of their full capacity and with the formation of the new company, they will be able to increase their production materially.

This increased production is expected to make for greater competition, and with Yellow Truck and Coach Manufacturing Company striving to gain the leadership in the field, the industry is looking forward to much greater activity than in the past.

Carolina Sales Districts Reorganized by Ford Co.

CHARLOTTE, N. C., July 18.—Reorganization of sales territories in North Carolina and South Carolina and several promotions in connection with the enlargement of the sales supervising staff are announced by the Charlotte branch of the Ford Motor Company.

The four sales districts were divided into eight districts, and Zone Supervisor L. H. Diehl of Charlotte, was promoted to the newly created position of chief roadman. Other promotions announced were: F. M. Wright, truck sales representative; T. W. Hancock, truck department representative; A. J. Beck, truck sales representative; H. G. Thrasher, service department representative; J. D. Perry, tractor department representative, all of whom were appointed zone supervisors.

The duties of those supervisors in a general way will be to see that the dealers in the Carolina territory are carrying out sales, service and advertising policies satisfactory to the company, it was explained.

DELAWARE TAX RECEIPTS

WILMINGTON, Del., July 18.—The state highway department reports that the motor vehicle fees from January to May, this year, totaled \$588,638. The budget

Would Standardize Highway Terms

WASHINGTON, July 18.—Standardization of a large number of technical terms in the English, Spanish and Portuguese languages will be one of the results of the Pan American Congress of Highways at Buenos Aires next October, the Pan American Confederation for Highway Education.

It is advanced that international communications on the subject of highway building will be greatly expedited if an exact definition is given to the many technical and semi-technical words used.

It is proposed, therefore, to compile a glossary of all terms including many common to the automotive industry, which may be useful to highway engineers. The North American delegation will present to the Congress a tentative glossary.

estimate for the entire year was \$605,000. There are seven more months in which to make up the estimated amount. The gasoline tax collected by the department for the first six months of the current year, January to the end of June, aggregated \$148,322.20. The budget estimate for the year was \$300,000. Last year for the last six months the gasoline tax aggregated \$184,007.25.

General Motors Sales Beat June of 1924 by 10,557

DETROIT, July 18.—Sales of General Motors passenger cars and trucks to ultimate consumers during June totaled 75,781, or 10,557 more than for June, 1924. The sale of passenger cars and trucks to dealers by the manufacturing divisions of General Motors for the past month totaled 70,974 as compared to 32,984 for June, 1924.

Following is the tabulation which shows monthly sales of General Motors cars to ultimate consumers and sales by the manufacturing divisions to their dealers:

	Dealers Sales to Users		
	1925	1924	1923
Jan.	25,593	33,574	31,437
Feb.	39,579	50,007	33,627
Mar.	70,594	57,205	74,632
Apr.	97,242	89,583	105,778
May	87,448	84,715	90,327
June	*75,781	65,224	74,423

	Division Sales to Dealers		
	1925	1924	1923
Jan.	30,642	61,398	49,162
Feb.	49,416	78,668	55,427
Mar.	75,527	75,484	71,669
Apr.	85,583	85,600	75,822
May	77,223	45,965	75,393
June	*70,974	32,984	69,708

*These preliminary figures include passenger cars and trucks sales in the United States, Canada, and Overseas by the Chevrolet, Oldsmobile, Oakland, Buick, Cadillac and GMC Truck manufacturing divisions of General Motors.

Havana Manager Heads New Ford Branch at Mexico City

A. R. Lajous Leaves Cuban Post to Handle Constantly Mounting Mexican Sales

MEXICO CITY, July 18.—A. R. Lajous, formerly manager of the Ford Motor Company at Havana, Cuba, is manager of the new branch office of that company which was opened here July 1. The opening of this branch is expected to be the means of greatly increasing sales in this country.

When President Plutarco Elias Calles learned that the Ford Motor Company was seeking a suitable location here he showed his personal interest in the matter and gave official aid in carrying out the company's plans.

The sale of Ford Motor Company products in Mexico is constantly mounting and new agencies are being established, even in many smaller towns which until recently were believed to have but few possibilities in the way of affording a market for automobiles. There are at this time approximately 50 dealers of the Ford Motor Company in Mexico.

Prior to the opening of the branch here the Mexican business was handled by the Houston office of the company. Besides Mr. Lajous, the staff of the branch here will consist of W. W. Townsend, as manager of the wholesale department; O. C. Schulz, chief traveling salesman, and J. C. Weller, manager of the Lincoln department.

Much Winter Storage to Be Stopped by New Enactments

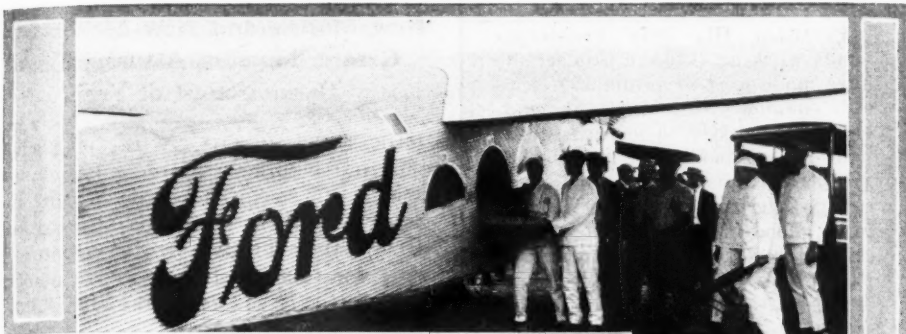
MILWAUKEE, July 18.—Automobile owners and dealers of Wisconsin will pay an added tax of thousands of dollars as a result of measures passed by the state legislature this year according to Bart J. Ruddle, Milwaukee, secretary of the Milwaukee Automotive Dealers association and secretary of the Wisconsin Automobile Dealers association.

Dealers will be forced to discontinue storing cars during the winter for spring delivery, in many cases, because they cannot absorb the personal property tax.

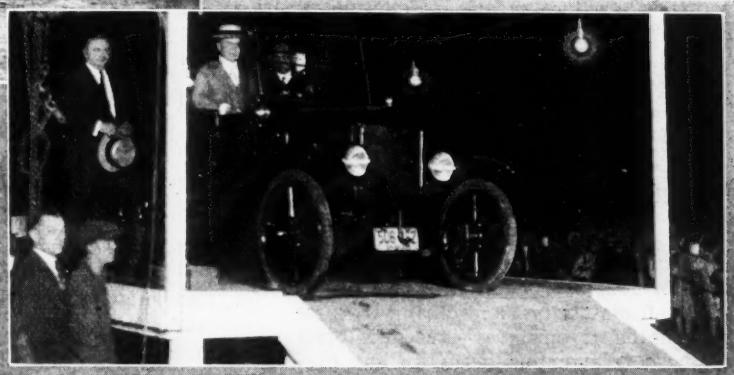
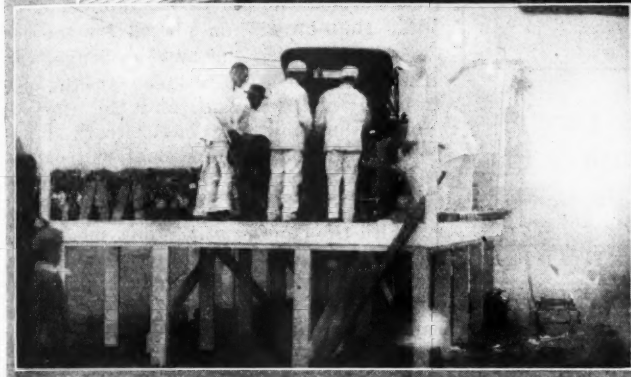
Farmers and others had previously waited until the tax assessor checked them up on May 1 or later and then wanted automobile delivery and this situation was cared for by the dealer who stored cars against such an emergency demand.

Big distributors who store many cars now will have to pay the personal property tax which has previously been an offset against their income tax. According to Mr. Ruddle between three and five thousand cars have been stored in this manner in Milwaukee and vicinity during peak years. In dollars and cents Mr. Ruddle estimates the annual additional tax on Wisconsin dealers and distributors at \$200,000.

Ford Roadster Is Sent to Cleveland By Air



Top view shows Ford roadster being loaded in Maiden Dearborn II before it left Detroit. Bottom left pictures the car being assembled on special platform provided for that purpose at the landing field in Cleveland. Lower right is the assembled roadster being driven from the platform under its own power. Seated in the car left to right are W. R. Hopkins, city manager of Cleveland, and W. B. Mayo, chief engineer of the Ford Motor Company.



SIMULTANEOUSLY with the opening of Cleveland's municipal airport which is a stopping point in the Chicago-New York U. S. night air mail service just inaugurated, Henry Ford's new air freight line between Detroit and Cleveland went into operation.

Piloted by LeRoy Manning, the 400 hp. Stout metal airplane, "Maiden Dearborn 2," left the Ford airport at Dearborn at 6 p. m. carrying the complete parts for a Ford roadster, arriving at Cleveland before dusk. This was intended as a testimonial of Mr. Ford's to Cleveland to show the practicability of the air freight service. The roadster in knocked down form was unloaded from the plane immediately it landed and assembled in record time by mechanics from the local Ford assembly plant before thousands of spectators who thronged the field all day.

Upon completion, the car was driven under its own power from the specially constructed platform by William B. Mayo, chief Ford engineer, who carried with him as passenger W. R. Hopkins, Cleveland's city manager. Included in the 1,412 pounds of freight transported in the plane was the regular Ford mail directed to the New York branch, the mail later being transferred to the night mail plane going East.

Extending the freight air lines to Cleveland marks the second stop in the development of the Ford airways which will eventually link all assembly plants with the Detroit factories. Two Ford planes have been in continuous use between Chicago and Detroit for more than two months and during this period there have been no accidents of any kind or serious deviation from schedule.

Airplanes from several parts of the

country attended the opening of Cleveland's municipal field and besides six privately owned Detroit planes a number of pursuit ships and bombers were present. Among several of the prominent personages in automotive and aeronautical circles attending the demonstrations were Major General Mason N. Patrick, chief of the army air services; Harvey Firestone, tire manufacturer; William B. Stout, George B. Wilkins and George W. Hopkins, president Detroit Flying Club.

Automobiles in Canada Pass 600,000 Mark First Time

WASHINGTON, July 18.—Automobiles in Canada have passed the 600,000 mark for the first time in history, according to an announcement just made here by the Department of Commerce.

Motor vehicles registered in Canada January 1 numbered 652,121, compared with 593,323 on January 1, 1924.

Ontario was the leading automobile owner among the provinces with 308,693 cars to its credit. The prairie provinces of Manitoba, Saskatchewan and Alberta combined accounted for 166,234 automobiles. More than 60 per cent of the cars in that area are owned in rural districts.

NEW MOON DEALER

ST. LOUIS, July 18.—The Moon Motor Car Company announces the appointment of A. L. Bendure Motor Company of Arkansas City, Kans., as Moon and Diana dealers. This company formerly handled the Maxwell and Chrysler cars in this territory and previous to that A. L. Bendure, head of the company, was connected with the Ford Motor Company.

Chrysler Speeds Production To Handle Heavy Demands

DETROIT, July 18.—With upwards of 40,000 orders on their books for Chrysler sixes and fours, production at the two Chrysler plants here have been speeded up to 750 cars a day.

Of this number, 500 are of the different Chrysler four models and 250 of the different six offerings. According to J. E. Fields, vice-president in charge of sales, plans have been made to produce 16,000 cars during July.

To maintain this rate of production, several hundred thousand dollars worth of the latest and improved machinery has been installed. Other improvements tending to speed up the output have also been installed.

Inability to obtain bodies for closed cars has proved the biggest setback so far. Dealers who could sell as many as 100 cars in a few days have been able to get but one-tenth of this number. The increased production is expected to do away with this difficulty.

UPTOWN STUTZ OPENS

CHICAGO, July 18.—Formal opening of the Uptown Stutz Company at 5051 Broadway is announced by Joseph Melin and George W. Peak. Mr. Melin is proprietor of the Melin Motor Sales at 3020 Lawrence Ave., where he handles Stutz and Flint cars. Mr. Peak is the Stutz dealer in Evanston. In the spacious show-room at 5051 Broadway, a special showing of the new Stutz models was made all this week.

Passenger Car Production Slows in U. S. and Canada

First Five Months of 1925 Show Decrease of 55,167 Compared to Same Period in 1924

WASHINGTON, July 18.—Production of passenger cars in the United States and Canada for the first five months of 1925, says the July issue of The Federal Reserve Board Bulletin just made public here, totaled 1,571,891 as compared with 1,627,058 for the first five months of 1924 and 1,526,601 for the first five months of 1923. The Bulletin makes the observation that "production and distribution of automobiles although not as great as in April continued large during May."

The May, 1925, production figure is given as 382,714 as compared with 391,302 for April and 332,151 for March.

"Although production," continues the Bulletin, "in both April and May of this year exceeded that of any previous month on record, the output for the first five months did not equal the corresponding total for 1924. Production of trucks has been well maintained and during the first five months of this year exceeded totals for the corresponding period of any previous year."

"Shipments of automobiles from factories in May were also less than during April, but fairly large as compared with previous months. Shipments by boat were particularly heavy. Sales by dealers to users of General Motors Corporation cars during May exceeded division sales to users. Both figures were slightly smaller than in April, but much larger than a year ago."

"Sales of cars by wholesalers in the Middle West, reporting to the Federal Reserve Bank of Chicago, were larger than in May, 1924, while retail sales were slightly smaller. Stocks of new cars on May 31 were smaller than on April 30 and considerably less than a year before. A few reductions have been announced in prices of automobiles in recent weeks, but no general decline in prices has occurred."

Miami Ford Dealer Sells 400 Cars in One Month

MIAMI, Fla., July 18.—The S. A. Ryan Motor Company has established what is believed to be a national sales record. Orders for 400 Ford cars were taken by the Ryan organization during the month of June, but owing to factory production and transportation difficulties, only 343 could be delivered.

Notwithstanding that the Ford factories in all parts of the country are working to capacity they have been unable to meet the demands of the dealers in many sections.

The Ryan Company also sold 20 Lincoln cars of various models during June; and the month's business totaled more than \$750,000, according to a statement of Mr. Ryan.

Between Gyps and Gypsies—What?

PEORIA, Ill., July 18.—Gypsy bands working through this section have made prey of automobile dealers, members drawing the merchant's interest with fortune telling while others of the band worked the cash register. In one local garage, a gypsy woman so successfully "good-lucked" a roll of bills in the hands of the owner, that it passed from him entirely. In Earlville, Ia., a short distance away, evidently the same band worked, securing \$40.

French Excited Over Ford's Move to Produce in Paris

PARIS, July 9. (By Mail).—French automobile makers are volubly excited about the purchase and equipment by the Societe Anonyme Francaise des Automobiles Ford, of a large plant near Paris for immediate production of 300 Ford cars and trucks a day. Ford heretofore, has operated his factory at Bordeaux merely to assemble parts shipped from the United States.

French manufacturers are more concerned over Ford's plans for sales abroad than in France. Last year they shipped but 47,000 cars and trucks to foreign buyers. The figures for the first four months of 1925 indicate a total for the year in excess of 50,000. They estimate that Ford will produce about 90,000 cars a year and see in this threatening total a plan to compete with them outside.

Citroen and Renault, makers of two popular priced French cars, are confident of their ability to compete with Ford in France.

SEATTLE GETS WHITE TROPHY

SEATTLE, Wash., July 18.—Sixty-five members of the branch of the White Company officially received President White's sales trophy plaque during the past week when G. A. Urquhart, vice-president of the company banqueted them at the Olympic Hotel. The trophy came to Seattle as a result of this branch having sold a higher percentage of White trucks in excess of its quota than any other branch in the Pacific Coast region.

CHRYSLER PLANS N. Y. FIGHT

NEW YORK, July 18.—Chrysler Motor Corp. will carry to a finish its fight to issue fire and theft insurance with the cars it sells in New York state, where James A. Beha, state superintendent of insurance, has declared it illegal. "The objections of the insurance commissioner have been turned over to our legal advisers and a test case will be instituted," said Guy Nunemaker, secretary to President Chrysler. "We believe that our insurance plan is legal and that the move against it is rank discrimination."

Present Six Months Seen Best in Industry's History

New Models and New Makes Give Greater Impetus, Assuring Good Business Rest of Year

DETROIT, July 18.—With but a short time left before the introduction of new models, those in close touch with the automotive industry in this area are expecting them to give greater impetus to sales and to make the present six months the best in the history of the industry.

This is borne out in the number of orders that have been placed for the new models and also the new passenger cars that have been introduced in the past month. Ajax, Diana, and the Chrysler four, the new passenger cars to be offered the public, have met with an unusually larger number of sales and orders.

With the coming of the new models, the field is being divided into two classes, one that favors new models and those who believe in periodical changes. The action of Studebaker in announcing no yearly models has added another line to those who have discontinued the bringing out of yearly models.

Quite recently, one of the high officials in the motor car industry here said that America being a prosperous country, its inhabitants demanded a change. This, he said, was also shown in the demand for new shoes, new hats and clothes and other wearables. Those who believe in no yearly models say that while the public does like something new, that the price of a pair of shoes does not compare with the capital invested in motor cars and therefore the periodical change is the best.

But whether the no yearly models followers gain additional supporters, it is certain that the introduction of the new models which will be made in the next few months will assure the industry of more and continued business for the remainder of the year.

Missouri Registrations Near 1924 Total During First Half

ST. LOUIS, July 18.—There were a total of 532,528 motor vehicles licensed in the state of Missouri up to July 4 as against 544,635 for the entire year of 1924, according to a report filed recently by Oscar G. Steininger, commissioner of automobiles. Of the vehicles licensed this year 486,146 were automobiles and 49,382 were trucks.

License fees have brought to the state road fund \$6,380,507 so far this year as against \$4,540,000 for the entire year in 1924. The increase in fees of course was in a large measure due to the 50 per cent increase in license cost voted last November.

St. Louis had a total of 122,068 motor vehicles licensed in 1924 and 110,592 so far this year.

Hanch Will Explain Time Payments to Ohio N. A. D. A.

Financial Authority Sees Danger in Material Reduction of Automobile Credit Terms

CEDAR POINT, SANDUSKY, O., July 18.—Tendencies to reduce automobile time-payment credit terms which have had a sporadic outcropping in the industry in the last two years, had their parallel forty years ago in the milling machinery business and with the same adverse results, according to C. C. Hanch of Chicago, general manager of the National Association of Finance Companies, who will be one of the feature speakers here of the first annual convention and outing of the Ohio Council, N. A. D. A., August 6-7. Between 1,000 and 1,500 automobile dealers, their sales managers, salesmen and service managers are expected to attend.

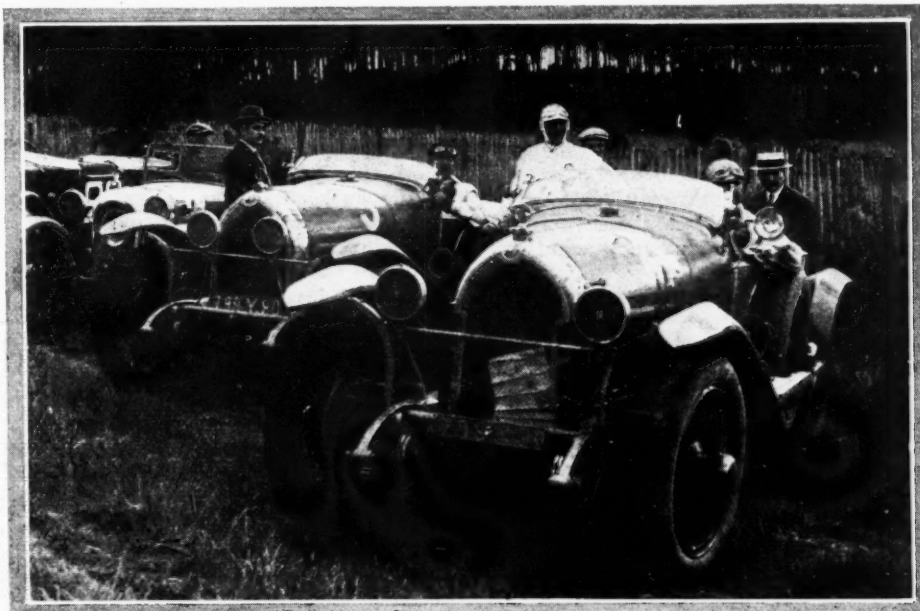
Mr. Hanch has had a long and responsible connection with the automobile industry. From 1896 to 1914 he was credit manager and treasurer of the Nordyke & Marmon Company at Indianapolis, a period during which they were the world's largest manufacturers of flour milling machinery and among the largest producers of fine passenger automobiles. From 1915 to 1918 he was treasurer of the Studebaker Corporation of America, from June 1918 to February 1919, chief of the automotive products section, War Industries Board, and during 1919 and 1920 he was general manager of the Maxwell Motor Corporation. Since 1920 he has been engaged in consulting and research work for automobile manufacturers, has been a director of the National Automobile Chamber of Commerce for many years.

"Intensive competition in the milling machinery business led to the institution of too liberal credits forty years ago," Mr. Hanch declares, "and was the primary cause of the later demoralization of that industry. Only in the last ten years has it recovered from the devastating effects of ill-considered sales policies.

Our association of industrial bankers who are financing probably 80 per cent of all the automobile time-payment sales in the country in laying down its policy demanding a third down on the purchase price of an automobile and completion of the transaction in twelve months, took the steps we believed necessary for a healthy and permanent business development.

"Judicious credit has made automobile ownership possible for millions of persons who could not have owned cars if compelled to pay cash. It is very important for dealers to realize the great work that legitimate credit has done for them and not expect that time-payment sales can be made to people whose credit for any article of merchandise might be questioned."

Lorraine-Dietrich Wins Twenty-four Hour Stock Car Race



Two Lorraine-Dietrich six-cylinder models are shown above, the one to the right being the winner of the Rudge-Whitworth Cup twenty-four hour race held recently at Le Mans, France. The winning car was driven by DeCourcelles and Rossignol. It had a piston displacement of 212 cubic inches. Second place was captured by a 179-cubic-inch Sunbeam. The Lorraine-Dietrich traveled 1,388.1 miles in the twenty-four hours, or an average of 57.83 miles per hour.

25 Years Ago In the Automobile Industry As Recorded In MOTOR AGE

(From MOTOR AGE of July 26, 1900)

Turning Out Many Wintons

Reports from Cleveland are to the effect that the Winton Motor Carriage Co., owing to its recent increased facilities, is turning carriages upon the market in greater quantities than ever before and can now guarantee delivery of both single and double seated carriages within thirty days from receipt of order. This company is at present engaged in broadening its field still more and hopes soon to be equipped so as to produce a quantity sufficient to give immediate delivery.

The Automobile in Philadelphia

Philadelphia, July 23.—Automobiles are becoming more and more plentiful here with each succeeding week. This can readily be explained by quoting a local dealer's statement to the effect that during last week alone he delivered no less than ten vehicles to their owners, all of whom are Philadelphians. He further stated that he is still far behind in his deliveries.

The Lafayette Hotel and several of the larger department stores having already enlisted the automobile in their respective services, other local caravansaries are preparing to swing into line. A certain large hotel has already placed an order for six passenger buses to run to and from the various railroad stations in the city.

Locomobile Newport Branch

The Locomobile Co. of America has just opened extensive and finely equipped headquarters at No. 110 Bellevue avenue, Newport, to take advantage of the demand for motor vehicles. E. S. Jaffray, Mr. Peekham and other representatives of the company are in charge.

A New Automobile Club

NEW YORK, July 23.—Westchester, the home of many wealthy New Yorkers, has a big automobile boom. On Saturday night, at the residence of Howard Willetts, White Plains, a number of automobilers met to form a club that will work in harmony with the Automobile Club of New York. One of the main objects of the members will be to provide supply stations along the Albany post road, the Boston post road and the new macadamized boulevards which are being built through the Bronx and Hudson River valleys, and the other cross country roads leading to the Ardsley Casino, Westchester Country Club and the Knollwood Country Club.

Most of the prospective members are millionaires. The charter members are Paul G. Thebaud, Howard Willetts, Trenon L. Park, Oliver Harriman, Jr., Eugene Reynal, Nathaniel Reynal, William K. Vanderbilt, Jr., William E. Iselin and William Rockefeller, Jr.

Diana Eight Is Received Enthusiastically by Public

Vice-President Rengers Sees Big Year Following Tour of Metropolitan Centers

ST. LOUIS, July 18.—Frederick H. Rengers, vice president and general sales manager of the Diana Motor Company, who has just returned to St. Louis after an extensive trip through the metropolitan centers, says that the reception accorded the new Diana light eight-in-line car manufactured by the Moon Motor Car Company, is little short of being marvellous. In a statement given out today at the Moon plant Rengers said:

"The genuine enthusiasm and the sincere interest shown by the public and by our entire distributor organization for the new Diana light eight both before and since the new car was officially introduced June 25, bespeaks a fine future for the new Diana eight. We have designed, created, and are now producing in our modern plant in St. Louis, this light eight automobile upon the desire and demand of the American public for an eight cylinder car of power and beauty plus lightness and serviceability and with an emphasis upon economy in operation.

"The enthusiasm being shown for the new Diana eight is being steadily reflected in ever-increasing sales. Monday of this week we received a total of 22 long distance calls from our distributors all over the country from coast to coast and from Minneapolis to New Orleans, wanting to know the shipping dates on their Diana orders. At the present time we have approximately 1,500 unfilled orders on hand and the production department was given orders today to speed up production, particularly on Diana closed models, on which the demand has been so great during the past week that the large stock of Diana closed bodies which had been considered entirely adequate for present needs, is exhausted. Numerous long distance telephone conversations with our body plant have elicited the information that production there will be stepped up so we expect immediate relief from this quarter."

NEW DURANT DEALERS

NEW YORK, July 18.—New dealers added to the organization of the Durant Motors, Inc., are as follows:

E. E. Whitten, Gunterville, Ala.; College Motor Co., Sulphur Springs, Ark.; O. L. Andrews, Wheeler, Ark.; Charles H. Wingate, Laurel, Del.; Mitchell County Motor Co., Camilla, Ga.; W. E. Bradley, Baxley, Ga.; T. H. Ennis Motor Co., Mill-ledgeville, Ga.; Christopher Brothers, Red-dick, Ill.; Dempster Garage, Evanston, Ill.; H. C. Gauker, New Castle, Ind.; Maurer Sales Co., Spencer, Ia.; L. W. Sanford, Westfield, Ia.; Strackbein & Hein, Low-den, Ia.; Joseph Roser, Brownell, Kans.; State Line Garage, Kanorado, Kans.; Hill Brothers, Germantown, Ky.; T. G. Wade & Co., Halethorpe, Md.; Richards Motor Car Co., Grand Rapids, Mich.; Paul J. Skaiem, Northfield, Minn.; George H. Gray, Pipe-stone, Minn.

Embryo Ministers Build Cars

DETROIT, July 18.—Under the supervision of a special supervisor chosen by the Ford organization, fifty students of the Yale theological school have entered the River Rouge plant of the Ford Motor Company as employees. It is part of an experiment by Yale University authorities who believe that a period of experience in a modern manufacturing plant will add to the future ministers' knowledge of present-day life and will help to give their words weight in future sermons.

The students have began their industrial experience as production men and at the regular wage rate. During the period of their stay which will end the latter part of September they will be given a chance to study the problems of management. Round table discussions to be held weekly will give them a chance to exchange observations and information.

At the end of their period, each will be called upon to report embodying their impressions. The reports will be entered in a prize contest which will be decided by five judges who are Henry Ford, James J. Davis, secretary of labor, Dr. Raymond B. Fosdick of New York, and Professors Jerome Davis and Edgar S. Furniss of Yale.

Jeff Carter Motor Co., Qutman, Miss.; Cunningham Motor Co., Ionia, Mo.; Riley & Money, Allen, Neb.; Grant Motor Co., Silver City, N. M.; Washington Motor Sales, Washington, O.; DeVoll Brothers, Caldwell, O.; McCalmant Motor Co., Law-ton, Okla.; Roemer Motor Co., Union City, Okla.; Wexford Garage, Wexford, Pa.; M. & H. Motor Co., Wilkes-Barre, Leon A. Wylen, Philadelphia; Dorneyville Auto Co., Allentown, Pa.; Keagy & Sipe, Han-over, Pa.; Daniel H. Mattern, Selinsgrove, Pa.; Darnell Motor Co., Beaufort, S. C.; Oliver Springs Garage, Oliver Springs, Tenn.; Doan & Howard, Wallins Creek, Tenn.

Liberty Garage, Schulenberg, Tex.; J. B. McIntyre, Sweetwater, Tex.; DeGarmo & Son, Colorado, Tex.; Cunningham & Ward, Bridgeport, Tex.; Ganado Electric Co., Ganado, Tex.; J. T. Moore, Balmorhea, Tex.; Dante Motor Corp., Dante, Va.; Sneed Buick Co., Covington, Va.; D. W. Carson, Allegheny, Va.; J. L. McQuain, Walkersville, W. Va.; J. B. Maxson, West-on, W. Va.; Sturm Motor Sales, Grafton, W. Va.; Heishman's Garage, Vordensville, W. Va.; H. F. Krueger, Milwaukee; Ban-croft Garage, Bancroft, Wis.

VESTA MAKES NEW LINE

CHICAGO, July 18.—The Vesta Battery Corporation has announced the "EAU" line of radio A batteries, designed and intended exclusively for radio use. The new product will have oversize positive plates with heavy type separators. They will be supplied in the 75, 100 and 125 ampere hour capacities and will be sup-plied vacuum sealed if desired.

Stutz' Unfilled Orders Are Heaviest in Firm's History

June Business 20 Per Cent Greater Than May With Sales Still Ahead of Supply

INDIANAPOLIS, July 18.—A report issued this week by Fredrick E. Moskovics, president of the Stutz Motor Car Com-pany, covering company business for April, May and June, the first quarter during which Mr. Moskovics has been directing the concern, shows a remark-able production, sales and distribution gain with company affairs at July 1 fore-shadowing a constant advance in pro-duction and sales.

At the end of June the Stutz factory had a larger number of unfilled orders on hand than at any similar period in the history of the company. This is in line with the proportion of retail sales to factory production which has been noted for the past quarter when actual sales in the territory constantly kept ahead of the factory production.

The June business showed a 20 per cent increase over May and an increase of distributor connections 30 per cent larger than in the preceding year. The forecast for July, August and September production shows that an even greater advance will be made in these months than in the first quarter.

The Stutz merchandising department records show that more than 40 new dis-tributors and dealers have been added in recent months, and new dealer and dis-tributing connections are being added each week. The latest distributor to join the Stutz organization is Arthur Shaffer of Syracuse, N. Y., and the following new dealer connections have been made re-cently: Corwin and La Porte, Lockport, N. Y., Graff Motor Company, Blacklick, Pa.

INDIANA TAX RECEIPTS UP

INDIANAPOLIS, July 18.—Gasoline tax collections for the state of Indiana for the second quarter of 1925 amounted to \$1,812,026.97 showing an increase over last year's second quarter of \$665,595.66 due in part to a 1-cent increase in the gasoline tax which went into effect in May. The tax is now 3-cents per gallon. The state highway department receives \$1,148,077 of the first quarter gasoline taxes, while counties, cities and towns receive \$574,038.95 for road work in their respective units. The total June gasoline tax amounted to \$765,714 as against \$451-029.28 for June, 1924.

WILLS STE. CLAIRE DEALERS

MARYSVILLE, Mich., July 18.—Deal-ers who have taken on the Wills Sainte Claire line recently are:

Geo. H. Stewart, Washington, Pa.; Joseph Lazzari, Monongahela, Pa.; J. J. Baxter Motor Sales Co., Charleroi, Pa.; Keough Bros., Cohoes, N. Y.; John G. Wier, Titusville, Pa.; The Amsterdam Wills Sainte Claire Co., Amsterdam, N. Y.

Manufacturers Seek Return of Replacement Parts Business

Committee Being Formed by N. A. C. C. Head to Investigated Conditions

NEW YORK, July 18.—Motor car manufacturers, acting through the National Automobile Chamber of Commerce, are seeking means of winning back some of the business they have lost to independent makers of replacement parts. Col. Charles Clifton, president of the chamber, has been directed to form a committee to go into the matter thoroughly.

The manufacturers have recognized for a long time that much of the replacement parts business goes to independent garages and repair shops not affiliated with the sale of any car and that independent makers of parts suitable for use in various passenger cars have done a good business for years in the replacement market, selling not only through the garages and service stations but also through jobber to passenger car dealers as well.

Just what policies the committee will consider as best for the car manufacturers cannot now be forecast, but the prevailing sentiment is that the competition should be met with better merchandising methods. The N. A. C. C. members believe that only parts bought through the car factory should be used for replacement by their dealers, but it is recognized that the independents have made heavy inroads through quick service and low prices.

The manufacturers realize that by no means all of the parts made by independent factories are inferior in quality, and that quality being equal, the agency which provides the quickest service and best price will get the business. In the decision to form the parts committee the N. A. C. C. members took due cognizance of these facts.

The disposition now is to accept the situation on a purely competitive basis and through appropriate action to increase the share of the car factory in this profitable end of the business.

One manufacturer, acting independently, has just decided to absorb freight charges on replacement parts, enabling dealers to quote factory list prices on the items.

GOOD TRUCK AND BUS DEMAND

SPRINGFIELD, O., July 18.—One of the busiest plants in Springfield is that of the Springfield works of the International Harvester Co. It is keeping up its schedule of 50 light high speed trucks daily, Superintendent Karl Schreiber announces. The motor bus business is also decidedly active, good sized orders being booked from points in the United States and also foreign countries.

Motor Pilgrimages to Mecca Seen

WASHINGTON, July 18.—Pilgrimages to Mecca in automobiles by the hundreds of thousands is predicted in the near future to the automotive division of the Department of Commerce as a result of the penetration by American automobiles of the interior of the Arabian peninsula. It is stated that this peninsula has seldom been crossed by a white man is one of the least known parts of the world.

Ibn Saoud, the leader of the Wahabi, who are practically supreme throughout Arabia and who recently purchased three small American cars, is credited with the conquest of the Arabian peninsula.

While it would be extremely difficult and dangerous for a white person to make this trip, it is pointed out that the journey is the entering wedge, and the Arabs will probably purchase more automobiles. Such will not only be useful for the transportation of food and merchandise but specially for the transportation of pilgrims, which will again flock to Mecca by the hundreds of thousands as soon as they regain confidence in the order established there.

Railroad Will Construct New Underground Garage

CHICAGO, July 18.—One of Chicago's first underground garages will be built shortly by the Chicago & North Western Railway in the city block between Randolph and Washington Streets and Canal and Clinton Streets, President Fred W. Sargent of the company, has announced.

The garage will have a storage capacity of 250 cars. It will be started at once and will be ready for occupancy by August 1.

The garage will aid in affording much needed relief from the parking congestion in the loop district. Mr. Sargent said the garage would be largely for use by patrons of the road, who wish to store their cars while on vacations but that it will be open to the public as well.

BUSES REPLACE TRAMS

KLAMATH FALLS, Ore., July 18.—W. E. Young has just obtained the franchise for operating buses in Klamath Falls, replacing the entire street car operations there, and has placed an order for buses with the Mack Truck Company, which will consist of one 29-passenger and two 25-passenger buses. Klamath Falls is the second city in Oregon to replace the street railway system with buses. The Astoria Transit Company was granted a similar franchise by the city of Astoria last year and placed in operation six street car type of buses a year ago last June.

Economic Phases of Motor Transportation to Be Studied

World Chamber of Commerce Convention in Brussels Appoints Body to Make Survey

BRUSSELS, July 9.—(By mail.)—Creation of a special committee charged with studying, from the economic point of view, the best methods by which the motor vehicle can fulfill its object as a means of transportation and with studying from the same point of view the relations between motor transportation and other means of transport—such was the net result of the meetings of the transportation section of the International Chamber of Commerce congress which has just come to a close in this city.

The initiative in this move was taken by the American section of the International Chamber of Commerce, and it was principally due to the efforts of Roy D. Chapin, chairman of the highway transport committee, that the question of highway economics was brought up for discussion.

At the close of the Transport Session Mr. Chapin entertained about 100 delegates to lunch at the Palace Hotel, Brussels, and at the close of this meal the film "The Highway to Happiness," was shown on the scene, not with any idea of proving, as Mr. Chapin explained, that things were done better in the United States, but to give an illustration of how some difficulties had been met and overcome.

American delegates were numerous at the Congress and the automotive industry was well represented at the transport session. In addition to Mr. Chapin, among those present were W. O. Rutherford, president of the Rubber Association of the United States, John N. Willys, M. L. Hemingway, general manager of Motor and Accessory Manufacturers' Association; Stephen D. Briggs, of the Maxwell and Chrysler Corporations, and Mr. Henderson, continental representative of the Chrysler Corporation.

NEW CLEVELAND DEALERS

CLEVELAND, O., July 18.—New dealers have been announced by the Cleveland Automobile Company as follows:

Chand-Cleveland Motor Company of Fresno, Cal., Love Motor Company of St. Petersburg, Fla., Medford Motor Mart of Medford, Mass.; Harland A. McPhetres, Inc., of Lynn, Mass., and the Blanks Garage, Inc., of Roxbury, Mass.

PIERCE-ARROW TO EXPAND

CHICAGO, July 18.—M. E. Forbes, president of the Pierce-Arrow Motor Car Company was a recent visitor at the Chicago branch headquarters. He declared that the Buffalo plant of the company is materially increasing its capacity for the 1926 output on automobiles, trucks and busses.



Along Automobile Row



SEATTLE, WASH.—The Sutherland Company, Inc. distributors for general tires throughout the Northwest, have recently opened new quarters at 128 Westlake Avenue North.

NEW LEXINGTON, OHIO.—A. Edgar Hammond, C. W. Morris, O. N. Spring, W. R. Donnelly and J. W. Hillare are the incorporators of the newly incorporated \$75,000 Perry County Bulck Co. The new concern is located at New Lexington and will conduct a general auto sales agency.

LOS ANGELES.—The California Stutz Company, Inc., announces the appointment of Harlan Fengler, famed speed king, as the Stutz dealer in Hollywood, Culver City and Beverly Hills, with his sales and service building at 6415 Selma avenue, Hollywood.

ROCKINGHAM, N. C.—Hudson-Essex Sales Company, Inc., has been chartered with an authorized capital stock of \$25,000 and \$3,100 subscribed by R. B. Naper, E. S. Naper and H. S. Boggan, all of Rockingham.

MILWAUKEE.—Howard Peterson, Forance E. Peterson, Ethel N. Roberts and Bryan Roberts have organized the Service Motor Sales unit at Union Grove, Wis., with capital stock of \$25,000. The company will sell motor cars and offer motor car service.

CHICAGO.—The United Truck Company of Chicago has been named northern Illinois distributor for the Gotfredson trucks, according to an announcement by R. B. Gotfredson, general manager of the motor truck division. This makes the fourth branch to be opened in the United States, the others being in Detroit, Cleveland, and Los Angeles. A complete sales and service staff will be maintained for Gotfredson buyers.

GALION, OHIO.—The Pattinson-Hubbard Motor Co. has been chartered with an authorized capital of \$10,000 to deal in autos, parts and accessories.

DES MOINES, IA.—P. L. Holt of the Oklahoma City, Okla., branch of the Ford Motor company, has been transferred to the Des Moines branch to succeed F. S. Reinhardt, as assistant manager.

NEW ORLEANS.—The Romain Motor Car Company, temporarily located at 618 Baronne street, is the new dealer for Pierce-Arrow in New Orleans. This company will handle the new Series 80 as well as other units of the Pierce-Arrow line, including the truck and bus.

COLUMBUS, OHIO.—A year lease has been obtained on the storeroom at 839-43 N. High St., by the newly incorporated Stanton Motors Co. Organization of the concern took place with the election of A. T. Stanton, president, S. Stanton, vice president, and P. L. Brothers, secretary and treasurer. The new company was formed to act as distributor for Chrysler motor cars, succeeding the Dobson Auto Sales Co.

MILWAUKEE.—A change in the corporate name of the King Motor Supply Co. of Milwaukee has been officially made and hereafter the organization will be known as the Replacement Parts Corporation. No change in the management has been announced and C. B. Clugston, Chicago, continues as president.

DETROIT.—Distribution of Auburn motor cars in the Detroit territory has been taken over by Hurley-Barnett, Inc., 5513 Woodward Avenue. The active conduct of the business will be handled by Steve Hurley.

LOVINGTON, ILL.—Marshall Whitaker, Overland dealer, is planning the erection of a new garage and salesroom here.

KENNETT, Mo.—Pickard-Wilson, local dealers for the Dodge Brothers automobiles and Graham Brothers trucks, are this week moving into their new quarters on Kennett street.

SEATTLE, WASH.—N. F. Sutton, Ford dealer, has recently moved into his new garage building at 12th Avenue and Yesler Way. Mr. Sutton has been identified with the automobile business in Seattle for many years, having formerly been associated with the Nash organization.

FORT MADISON, IA.—M. L. Ulrich has taken the Rickenbacker car agency for this community and is established at 611 Second street.

TOLEDO, OHIO.—At a recent meeting of stockholders at the office of the company in Toledo, it was decided to increase the capital stock of the Toledo Yellow Drive It Yourself Co. from the original \$10,000 to \$100,000. C. F. Wall is president and L. L. D. Chapman, secretary of the company.

DURHAM, N. C.—The Swift Motor Company is a new concern here. It will handle Essex and Hudson cars and do a general garage business. Proprietors are J. Frank Swift, formerly connected with the Holt Motor Company of Greensboro, N. C., and H. J. Mangum, formerly with the Banner Motor Company of this city.

OAKLAND, CAL.—Improvement in general business conditions for the first half of 1925 has compelled the Pierce-Arrow Pacific Sales Company to move into new and larger quarters at 2850 Broadway, Oakland. Arrangements also have been made for the establishment of a complete service department for the mainland side of San Francisco Bay.

WARREN, OHIO.—The Park Auto Wrecking Co. has been chartered with an authorized capital of \$10,000 to buy and sell new and used autos, parts and accessories.

SALT LAKE CITY.—The R. T. Mitchell Company, Ogden, Studebaker dealers, have opened a branch store in Salt Lake City. George Stevenson, attached to the company at Ogden, will be in charge.

PORTLAND, ORE.—Kirk Thompson has been appointed general manager of the Covey Motor Car Company. Mr. Thompson has been associated with the Covey Company for the past eight years in Cadillac sales and service departments.

KIRKSVILLE, MO.—H. E. Tucker of the H. E. Tucker Motor Company of Kirksville, has opened a service station and sales office of Dodge Brothers automobiles here.

STEWARDSON, ILL.—The Wilson Auto Company has purchased the brick garage operated by the Yakey & Ulmer Company and will take it over to be used as a Ford salesroom. The Yakey lease expires April 1, 1926, when the full change will be made.

NEW YORK.—Mortimer J. Roberts, who with his brother Montague Roberts will be remembered as winners in the Brighton Beach twenty-four hour race, Vanderbilt cup, Briarcliff and Fairmont Park races, is back in New York as engineer with the Red Seal Refining Company, in charge of its recording instrument division.

CHICAGO.—The U. S. Armature Service, largest rewinders of armatures for the automobile trade in the United States, has moved into larger quarters at 11-17 S. Desplaines Street, where the facilities are greater in all departments.

RALEIGH, N. C.—Ransom Saunders of Smithfield, N. C., has obtained the contract for the Ford agency in this city heretofore held by C. H. Rawls of the Rawls Motor Company.

WELLSVILLE, UTAH.—The Peach Motor Co. of Burley, Ida., has opened a Ford agency here. It will be called the Monte Cristo Motor Co. and will handle batteries and tires. Chas. Height will be manager. Mr. Height has been the company's sales manager for some years.

CHILLICOTHE, MO.—Joe Shirley has accepted the position of Lincoln representative for the Burt Gill Motor Company of this city and the McVey Motor Company of Trenton.

DALLAS, TEX.—The Perry Motor Company, Dodge distributors and dealers has closed a lease for a three-story building at Pacific and Pearl Streets which will be the future sales and display rooms of the company. The lease was taken for ten years at a cost of \$190,000.

PORTLAND, ORE.—S. V. W. Peters, vice-president of the Portland Motor Car Co., Hudson and Essex distributors for this territory announces the appointment of Condit & Conser as dealers in Multnomah County.

GALESBURG, ILL.—Ben Park, who has been with the Pattee Plow Co. of Monmouth a number of years, has purchased the Declo Enameling Co., 571 East Main street, formerly operated by his brother, Roy Park and Claude Craver.

AKRON O.—The R. J. Schmunk Co., of Cleveland, distributor for Hudson-Essex motor cars, has appointed the C. E. Maloy Motor Company, dealer for its line in Akron. Workman Motor Sales Co., 36 N. Summitt Street, is the new dealer in Akron for Star and Durant motor cars. The company also handles the Rickenbacker.

MEMPHIS.—The Mack International Motor Truck Co., has taken a lease on a large new building to get more space than their present place. The truck company is doing much bus line equipment in the Delta section.

BOSTON.—George M. Leghorn, owners of Leghorn Motors, former distributor of Gardner cars for New England now under Connell & McKone has reconsidered his decision to handle the line at retail in Boston and he has announced his retirement from the automobile business.

OAKLAND, CAL.—The Western Auto Supply Company has a new store and warehouse at Twenty-fourth street and Broadway, Oakland, a four story building remodeled to suit the needs of the company, and all of which will be occupied by the one firm. This is the 126th store to be opened by the Western Auto Supply, putting it in the position of the largest retail automotive accessory concern in the United States.

CHICAGO.—E. V. Wills, formerly assistant service manager of Westinghouse Automotive Division and more recently connected with Barter-Oppenheim, Newark, N. J., has entered the employ of the Eisemann Magneto Corporation. Mr. Wills has been assigned to the branch office at Chicago and will act as service traveler in the middle western states.

DALLAS, TEX.—The Patton Overland Company of Greenville, Texas has been appointed agents for the Willys-Knight and Overland cars in the Greenville district according to announcements of the Dallas branch of the company.

BURLINGTON, IA.—The Warming Motor Company has completed negotiations with the Barton Motor Company by which it takes over the later's Ford and Lincoln franchise for this territory, the Barton shop, equipment, parts stock and appoints J. G. Turner as sales manager. The Warming Company, now handling the Paige-Jewett and Willys-Knight cars will drop these to handle the Ford exclusively.

PORTLAND, ORE.—The Therkelsen Motor Car Company, Portland, Oregon, distributors for Rickenbacker cars, have moved into new quarters at Fifteenth and Burnside Streets, which will double the size of their former quarters.

OGDEN, UTAH.—C. W. Trounson, manager of the Ogden Auto Service Company, has purchased the stock in that company and will continue the business as an individual hereafter.

With the Associations

Bus Service to Unite

SPRINGFIELD, Ill., July 18.—All bus service companies in Illinois will be united in the Illinois Motor Transportation Association which will have its first semi-annual meeting in the state arsenal here July 23-25. The association has established general headquarters at 505½ East Monroe Street, under James E. Simpson, secretary-treasurer. An exhibit of motor buses and accessories will be a feature with practically all the larger manufacturers participating.

Harry G. Wright, DeKalb, president of the Northern Illinois Service Company, is president of the association; H. E. Barber, Marion, head of the Egyptian Transportation System, vice-president; Mr. Simpson of the Red Line Company, East St. Louis, secretary-treasurer and Alton Nelson, Aurora, in charge of the state office here assistant secretary.

The association has taken cognizance of the belief that freedom in the industry from steadily mounting costs of transportation requires an alignment of the two basic factors—the operators of the vehicles and the manufacturers and its programs will stress this point.

Gasoline Dealers Organize

VANCOUVER, B. C., July 18.—Retail gasoline and oil dealers, meeting under the auspices of the Retail Merchants' Association, are organizing an independent gasoline and oil dealers' division of the automotive section of the R. M. A. This is a new movement and one likely to have a far-reaching effect in the distribution and sale of oil and gasoline in Greater Vancouver.

Carolina Tradesmen Meet

GREENSBORO, N. C., July 18.—Directors of the Carolina Automotive Trades Association, meeting in Greensboro, considered problems of their business and how to solve them through co-operation. Kelly A. Grice of Charlotte, president of the organization, presided at the meeting.

Freight rates held a prominent place in the discussions, especially relating to oil. Dealers were of the opinion that they had about all the overhead they could carry and they want to protect themselves against further inroads.

Formal application for a charter was signed by the directors. The association was organized last May 12.

In connection with the meeting of the directors, dealers in gasoline, tires and all accessories from Greensboro, High Point, Burlington, Winston-Salem and Gibsonville, held a meeting to discuss shop efficiency.

Following the two meetings the visitors were the guests of the Greensboro dealers at a luncheon.

Directors of the association are: Kelly A. Grice, Charlotte, president; George Taylor, Washington; Arthur Ruffin, Wil-

son; James B. Hughes, Wilmington; Henry Allen, Raleigh; J. C. McDonald, Charlotte; W. H. Arey, Shelby; F. C. McArthur, Asheville; E. K. Snyder, Winston-Salem.

St. Louis Committees Named

ST. LOUIS, July 18.—Frank C. McDonald, president of the St. Louis Automobile Dealers' Association has announced a list of committees to serve the organization during the year.

The committees follow (in each case the first named is chairman):

Used Car—George M. Berry, J. T. Salisbury, J. N. Kellerman and E. C. Meissner.

Constitution and By-Laws—R. C. Frampton, W. H. Vesper, Phil Brockman.

Gasoline Tax—Phil Brockman, J. T. Salisbury and R. E. Lee.

Arbitration—E. A. Hatfield, George Weber, H. C. Merry, William Walsingham and A. S. Johnson.

Legislative—E. L. Kuhs, Phil Brockman, H. W. Kardell, J. James MacGregor and W. L. Johnson.

Dealers Thwart Frauds

ST. LOUIS, July 18.—Fraudulent advertising schemes are costing automobile dealers in the city of St. Louis around \$100,000 per year, according to a recent estimate of Robert E. Lee, manager of the St. Louis Automobile Dealers' Association. The association maintains a service for dealers which would relieve them of the task of refusing subscriptions to every charitable program that comes along if they would use it.

The system consists merely of a sign hung in the dealer establishment stating that the dealer is bound to make no contribution to any advertising or charitable fund until approved by the Advertising Censor Committee of the St. Louis Automobile Dealers' Association.

At a recent meeting of the board of directors of the organization the value of this service was discussed and it was decided to have a large sign printed and neatly framed to be hung in dealer establishments directing solicitors to the advertising censor committee.

Atlanta Headquarters Moved

ATLANTA, July 18.—C. V. Hohenstein, executive secretary of the Atlanta Automobile Association, membership of which includes practically all the dealers and jobbers in Atlanta identified with all the branches of the automotive industry, announces the recent removal of the general offices of the association from the Gould Building, where they were located for years, to larger quarters at 1308 and 1309 Citizens & Southern Bank Bldg.

At present the association legislative committee is unusually active in connection with the regular summer meeting of the Georgia State Legislature, now in session, pushing legislation favorable to

the industry, and combatting legislation that would have an unfavorable effect on the business if allowed to get onto the state's statute books.

The association is strongly supporting a bill seeking a bond issue of \$70,000,000 for road building and maintenance in Georgia.

Shops Close Saturday Afternoons

ST. LOUIS, July 18.—A recent decision of the Service Managers' Bureau of the St. Louis Automobile Dealers' Association that Saturday afternoons are unprofitable to a large majority of dealers' repair shops has resulted in a campaign by the association for the closing of repair shops on Saturday afternoons to remain closed until Monday morning.

A letter of notification sent out by R. E. Lee, manager of the Dealers' Association, states that the board of directors after consulting with a considerable number of service managers was convinced that Saturday afternoon business was unprofitable and that closing would result in no financial loss to the dealers.

Last week was the first since the board passed the resolution and a number of shops closed. It is expected that most of the establishments will fall into line and that in a short time all dealer repair shops in St. Louis will be closed on Saturday afternoons to remain closed until Monday morning.

Ohio Association Meets

COLUMBUS, O., July 18.—The newly elected board of directors of the Ohio Automobile Association, composed of 81 clubs in Ohio, met in Columbus recently, for the purpose of organization, following the annual convention in Cedar Point, O., in June.

Charles C. Janes, who has been secretary of the association for the last five years was re-elected to that position for a term of three years. This is the first time that a term of longer than one year has been given the secretary, but owing to the fine record made by Mr. Janes he was complimented by the longer term.

During the time that he has been an official of the association, Mr. Janes contributed in a large measure to the growth of the association. Mr. Janes was elected secretary of the A. A. A. for the second time recently.

The trustees adopted a resolution requesting Secretary of State Thad H. Brown to call a meeting in Columbus of all deputy registrars of automobiles in order to iron out the difficulties contained in the new law which becomes effective July 20. Under the new law there is much "red tape" to be followed and many deputy registrars refuse to continue the service, even if permitted to charge a fee of 15 cents per registration as is allowed under the new law. Wesley S. Thurstin, Jr., of Findlay, recently elected president, presided at the meeting.

Maudslay Motors Brings Out Safety Coach in 3 Models

Chassis Designed for Safe High Speed Travel, Developing Up to 40 M. P. H.

LONDON, July 8.—(By mail.)—A safety coach chassis in three different models has just been brought out here by the Maudslay Motor Company of Coventry. The chassis throughout have been designed to furnish maximum amount of safety under high speeds, the coaches being intended for operation at speeds up to 40 m.p.h.

The M. L. 2 model has a 180 in. wheel base and is intended for open coaches seating 22 passengers. The M. L. 3, with a wheel base of 198 in., is built to carry a single-deck bus body holding 37 persons and the M. L. 4 with a wheel base of 200 in., is suitable for saloon buses seating 30 passengers.

The M. L. 3 model, due to its forward type of construction, has an unusually long body somewhat over 25 ft. being available back of the dash. A low center of gravity is aimed at throughout. The clearness of the back axle is 11 in. and the tread is 69 in. between the centers of the rear wheels and 72 in. at the front. The rear springs which are 54 in. long and 3 in. wide are practically flat under load, while the similar front spring has a length of 40 in.

No radical changes from other Maudslay models have been made in the power plant. A number of minor refinements have been made however, such as the inclusion of an oil filter. The rated speed of the engines is 2,000 r.p.m. at which speed the M. L. 2 engine develops 60 b.h.p. and M. L. 3 and M. L. 4 engines 70 b.h.p.

The foot brake on all the models operates on the transmission but with it is combined the Servo device for operating the Perrot type front brake. The engine propeller shaft and gear box have all been brought into line by inclining the subframe and the low built chassis makes it possible to enter the coach with but a single step.

June Hupp Sales Greatest in History of Corporation

DETROIT, July 11.—Due in part to the continued large demand for the Hupmobile Eight, June was the largest month in the entire history of the Hupp Motor Car Corporation in sales volume in dollars, and the second largest in number of cars manufactured, the company has announced.

In making this record, Hupmobile reports that the June shipments of eight cylinder cars increased 77 per cent over those for May. More than \$700,000 in unfilled orders for eight cylinder cars was carried over from June 30 while \$2,000,000 in unfilled orders for four cylinder models was also carried over.

July 1 showed the trend toward the Hupmobile Eight when additional orders

Automobile Shows

BostonOct. 10-17
World's Rubber and Tropical Exposition.

Dallas, Tex.Oct. 10-25
Annual Automobile Show, State Fair Automobile Building, under the auspices of the Dallas Automotive Trade Association. J. W. Connell, manager.

De Pere, Wis.Aug. 31-Sept. 21
Annual Automobile Show under the auspices of the Automobile Division of the Green Bay Association of Commerce.

Fresno, Cal.Sept. 28-Oct. 3
Fresno Motor Car Dealers Association. Fifteenth Annual Show in connection with Fresno District Fair.

Grand Rapids, Mich.Sept. 7-12
Grand Rapids Automobile Dealers Association, Seventh Annual Show in connection with West Michigan Fair, Wm. T. Morrissey, manager.

Oklahoma City, Okla.Sept. 26-Oct. 3
Annual State Fair and Exposition. Passenger cars and accessories.

Sacramento, Cal.Sept. 5-13
Automobile Exhibits in Diamond Jubilee State Fair.

Shreveport, La.Oct. 24-Nov. 8
Twentieth Annual State Fair showing passenger cars, trucks and tractors.

New YorkNov. 15-21
Twenty-first Annual Automobile Salon.

Wheeling, W. Va.Sept. 7-12
Wheeling Automobile Dealers Association, Eleventh Annual State Fair, Exposition Building.

White River Junction, Vt.Sept. 15-18
Nineteenth Annual Twin State Fair. Passenger cars, trucks and accessories. F. L. Davis, manager.

ChicagoJan. 30-Feb. 6
Twenty-sixth Annual National Automobile Show and Eleventh Annual Automobile Salon.

Danbury, Conn.Oct. 5-10
Eighth annual fair, Danbury Fair Auto Building, under direction of Danbury Agricultural Society, passenger cars, trucks, tractors, accessories, etc., H. Lage, manager.

BostonOct. 10-17
World's Rubber and Tropical Exposition, Mechanics Hall, Chester I. Campbell, manager.

ChicagoSept. 28-Oct. 3
Fourteenth annual Safety Congress and Exhibit, Rainbow Room, Hotel Winton, under direction of National Safety Council, A. M. Smith, business manager.

Salt Lake CityOct. 1-7
Third annual Automobile Show and forty-seventh annual State Fair in Coliseum Building, Wm. D. Sutton, supervisor of Automobile Show.

Coming Motor Events

Foreign Shows

Berlin, GermanyNov. 26-Dec. 6
Annual Automobile Show in the Kaiserdamm.

Buenos Aires, ArgentinaOct. 3-13
Pan-American Road Congress.

London, EnglandOct. 8-17
Olympia Passenger Car Show.

London, EnglandOct. 29-Nov. 7
Annual Truck Show.

Races

Altoona, Pa.Sept. 7

Charlotte, N. C.Oct. 24

Fresno, Cal.Sept. 30

Laurel, Md.Oct. 10
A. A. A. Race, Baltimore-Washington Speedway.

Los Angeles, Cal.Nov. 26

Monza, ItalySept. 6
Italian Grand Prix Race.

Paris Montlhery trackJuly 26
French Grand Prix.

Syracuse, N. Y.Sept. 19

Salem, N. H.Oct. 12

Conventions

Buenos Aires, ArgentinaOct. 3-13
Pan-American Road Congress.

ClevelandSept. 14-19
Annual Convention and Exposition of American Society for Steel Treating.

ClevelandSept. 15-16
S. A. E. production meeting and exhibition.

Des Moines, Ia.Nov. 12-13
Automotive Merchants' Association Convention.

Everett, Wash.Aug. 3-4
Annual state convention Washington Automotive Trades Association.

Montreal, Que.Oct. 7-10
Fall convention of the Motor and Accessory Manufacturers Association.

PhiladelphiaSeptember
S. A. E. Automotive Transportation meeting.

Pittsburgh, Pa.Oct. 12-14
Pennsylvania Automotive Association Convention.

St. LouisNov. 17-19
Annual Convention of National Tire Dealers' Association.

Eaglesmere Park, Pa.Sept. 14-17
General meeting of the Automotive Electric Association.

totaling upwards of \$1,000,000 were received.

Total shipments of all models for June exceeded those for May by 61 per cent, and of June, 1924, by 92 per cent. June, 1923, was beaten by approximately 36 per cent.

According to O. C. Hutchinson, general sales manager, more than 10,000 Hupp Eights will have been shipped before the end of August at the present rate. The stocks of cars on hand by dealers and in transit by the end of June represented less than a three weeks' supply.

Velie Holds Second of Its Series of Sales Meetings

Recent Months All Show Increases in Business Over 1924, Hadden Says

MOLINE, July 18.—Sceond of a series of distributors' sales meetings recently announced by C. W. Hadden, general sales manager of the Velie Motors Corporation took place at the factory here last week. Distributors attending represented Iowa and Illinois territories. Last week distributors from various parts of the United States were present at a similar meeting.

Mr. Hadden pointed out that sales for the last nine months have exceeded those of the corresponding period in the preceding year in every month except one. Sales for March 1925, he said, were the largest for any March for four years. May sales increased 12 per cent over the same month in 1924 and a larger increase is expected for June when that month's reports are all in.

Mr. Hadden spoke of the export sales as having increased 50 per cent during the first five months of 1925 over the same period a year ago. These sales have been under direction of L. F. Murphy, assistant sales manager, formerly with General Motors Export Corporation.

In Iowa during the last six months Velie sales have made increases ranging from 36 to 170 per cent; this latter record belonging to Joe O'Leary of Iowa City. Walter Saner, Davenport distributor, disposed of 125 cars during the first six months of the year. The sales record of Johnson & Phillips of Freeport, Ill., Garkey Brothers of Mount Morris, Ill., and Charles E. Moore of Ottawa, Ill., were also complimented by Mr. Hadden.

Farmers Urged to Sell Accessories at Roadside

JEFFERSON CITY, Mo., July 11.—Jewell Mayes, secretary of the Missouri state board of agriculture, is urging farmers to cash in on highway traffic, by establishing roadside markets—not only for farm produce, but for automobile accessories. The suggestion is embodied in the following paragraphs, under the head of "The Farmer's Advertising," in the Missouri Clip-Sheet for July—issued by the Department of Agriculture:

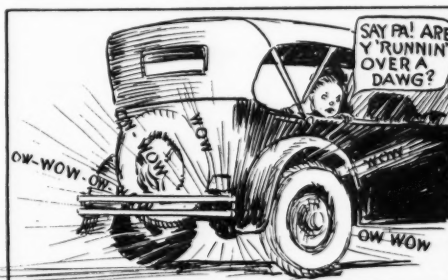
"Without discrediting or minimizing any other means of farm market development, it must be admitted that the farmer is helping himself and will continue to increase his income through advertising products of his farm.

"The roadside marketing of farm products has already begun in Missouri, and will mightily increase with developing and finishing of the state highways. Roadside bulletin boards are helpful.

"The Missouri State Board of Agriculture passes the word along to its farmer

SQUEEKS and RATTLES

GNASHING OF TEETH



**What's your new mechanic doing?
He's working on axle adjustments.
Is he good at it?**

I leave that to my foreman, but he says every job turned out is a howling success.

EFFICIENCY

It seems to us these efficiency engineer people are carrying things too far. One of them was working for a contractor. He wanted some bricks carried, so he said, "Here, now, Murphy, what about carrying some more bricks?"

"I ain't feeling well, guv'nor," said Murphy. "I'm trembling all over."

"Well, then, lend a hand with the sieve."—The Furrow.

A green apple a day buys the doctor's coupe.

friends that they will do well to give thought to advantageous locations for operating wayside marketing, wood lots suitable for small tourists camps, and to spots adapted to farmer-owned oil stations with emergency car supplies."

ASHLAND MFG. PURCHASED

FOSTORIA, O., July 18.—The Fostoria Pressed Steel Co. has purchased the business of the Ashland Mfg. Co., of Ashland, O., manufacturers of the Eureka line of pumps, jacks and wrenches. The business will be moved to Fostoria, where the Fostoria Pressed Steel Company will continue the manufacture and sale of Eureka pumps, jacks and wrenches, in addition to their present line of Fostoria Fenders. A separate building has been acquired for the manufacture of the Eureka line.

CATALOGS 24 PAGES

WASHINGTON, July 18.—Automobile manufacturers and dealers who use catalogs in their sales literature must string them out to twenty-four pages, says the Post Office Department, if they want to get advantage of the 1 cent per 2 ounce rate. Twenty-four pages make a catalog, the department rules, and catalogs less than this number must bear a rate of 1½ cents per 2 ounces.

HE KNEW HIM

Newrich: "I don't suppose you're used to driving men like me, are you?"

New Chauffeur: "Oh, yes, I drove the police patrol for three years."—The Furrow.

SAVED

All eyes were strained at the daring aviator in the clouds. Then a shout of alarm went up. "The parachute! It won't open! He's falling!"

"Don't worry," admonished the bird-man's best friend. "He's got on rubber heels."—American Legion Weekly.

A NERVOUS GUY



"Why do you jump at the sound of a motor car?"

"Well, some time ago my chauffeur eloped with my wife, and every time I hear a horn I think he's bringing her back!"

CALIFORNIA RECEIVES GRAHAM

STOCKTON, Cal., July 18.—The automotive industry in California received another healthy boost when the truck plant of Graham Brothers, a division of Dodge Brothers, Inc., was opened here recently. More than 250 Dodge dealers, through whom the Graham product is marketed, attended the opening, and the Stockton Chamber of Commerce acted as host both to Graham Brothers and to the visiting dealers from every county in the state. Graham Brothers' trucks stood first in the 1½-ton field in California for the first quarter of 1925, and in the combined 1 and 1½-ton division, were exceeded only by the Ford for the same period. A drive-away of 150 trucks featured the opening day. Production basis is 10 trucks per day and Graham Brothers have 30 acres in their plant site to be used for future expansion.

G. M. UNIT ON 55-HOUR WEEK

BRISTOL, Conn., July 15.—The New Department Manufacturing Co., a unit of General Motors Corp., is operating on a 55-hour week plan in all departments except the coaster brake plant. Heretofore the company has worked on a 9-hour day schedule. There will be no vacation period this year owing to increasing business.

Prices and Weights of Current Passenger Car Models

SHIP. WT. PASS. BODY STYLE. PRICE

AJAX
2210 5-p Touring \$865
2410 5-p Sedan 995

ANDERSON "41"
2650 5-p Touring \$1,195
2675 4-p Sp. Touring 1,445
2925 2-p Coupe 1,425
2875 5-p Sedan 1,695
2925 5-p Sp. Sedan 1,895

2975 7-p Touring 1,595
3200 7-p Sedan 1,945

APPERSON "6"
5-p Phaeton \$1,575
3100 5-p Sp. Phaeton 1,650
3145 4-p Coupe 2,050
3470 5-p Sp. Sedan 2,100
5-p Brougham 2,050

"ST 8"
5-p Sp. Phaeton 1,995
4-p Coupe 2,450
5-p Brougham 2,450
5-p Sedan 2,595

AUBURN "4"
5-p Touring \$795
6-p Roadster 1,495
2900 5-p Brougham 1,595
2885 5-p Sedan 1,795

"8-88"
6-p Roadster 1,975
5-p Sport Roadster 1,975
4-p Club Roadster 2,075
5-p Sport Brougham 2,250
5-p Sedan 2,350

BUICK "Standard"
2750 2-p Roadster \$1,150
2920 5-p Touring 1,175
2960 2-p Coupe 1,375
3075 4-p Coupe 1,565
1885 5-p Dbl. Srv. Sedan 1,475
3245 5-p Sedan 1,665
3050 5-p Coach 1,295

"Master"
(120 in. W. B.)
8285 2-p Roadster 1,365
8465 5-p Touring 1,395
8850 5-p Sedan 2,225
8560 5-p Coach 1,495

(128 in. W. B.)
8485 3-p Sp. Roadster 1,750
8550 5-p Sp. Touring 1,800
8610 7-p Touring 1,625
8745 3-p Country Club 2,075
8770 4-p Coupe 2,125
8905 5-p Brougham Sedan 2,350
4030 7-p Limousine 2,525
8995 7-p Sedan 2,425
8850 7-p Town Car 2,925

CADILLAC "V-63 Standard Line"
4190 2-p Roadster \$3,185
4280 7-p Touring 3,185
4200 4-p Phaeton 3,185
4240 5-p Coach 3,185
4610 7-p Sedan 3,885
4625 5-p Landau 3,885
4655 7-p Std. Imperial 4,010

"Custom Built"
(132 in.)
4260 2-p Coupe 3,975
(138 in.)
4400 5-p Coupe 4,350
4490 5-p Sedan 4,550
4590 7-p Suburban 4,650
4655 7-p Imp. Suburban 4,950

CASE J. I. C.
3260 3-p Roadster \$1,840
3290 5-p Touring 1,885
3470 5-p Sp. Touring 2,160
3570 4-p Sub. Coupe 2,480
3640 5-p Sedan 2,590
3650 5-p Brougham 2,590

"X"
8020 3-p Roadster 1,570
8050 5-p Touring 1,595
3380 5-p Sub. Coupe 2,290
3380 5-p Victoria 2,290
3400 5-p Sedan 2,385

"Y"
3950 7-p Touring 2,225
4320 7-p Sedan 2,975

CHANDLER "SS"
3090 2-p Roadster \$1,795
3132 4-p Roadster 1,785
3085 5-p Sport Touring 1,595
3248 4-p Royal Dispatch 1,885
3376 5-p Coach 1,595
3309 5-p Chummy Sedan 2,045
3525 5-p Met. Sedan 2,195
3428 5-p Sedan 4 d. 1,995
3594 7-p Sedan 2,295
3585 7-p Limousine 3,095

SHIP. WT. PASS. BODY STYLE. PRICE

CHEVROLET "Superior" (Series K)
1755 2-p Roadster \$525
1870 5-p Touring 525
2015 2-p Utility Coupe 715
2110 5-p Coach 735
2220 5-p Sedan 825

CHRYSLER "Four"
(109 in. W. B.)
2390 5-p Touring \$895
2440 2-p Club Coupe 995
2590 5-p Coach 1,045
2680 5-p Std. Sedan 1,095

"Six" (112 1/4 in. W. B.)
2805 4-p Roadster \$1,625
2730 5-p Touring 1,395
2785 5-p Phaeton 1,495
2895 5-p Coach 1,545
2935 4-p Coupe 1,895
2995 5-p Brougham 1,965
3060 5-p Sedan 1,825
3085 5-p Imperial Sedan 2,065
3090 5-p Crown Sedan 2,195

(118 1/4 in. W. B.)
3225 5-p Town Car 3,725

CLEVELAND "31"
2325 5-p Touring \$ 895
2580 5-p Sedan 1,195
"43"
2750 5-p Touring 1,095
2810 5-p Touring De Luxe 1,195
2910 5-p Sp. Touring 1,295
3000 5-p Coach 1,295
3040 5-p Sedan 1,495
3190 5-p Sedan De Luxe 1,695
3190 5-p Sport Sedan 1,725
2990 5-p Brougham 1,545

COLE "MASTER"
3675 4-p Volante Touring \$2,325
3795 7-p West. Touring 2,325
3675 4-p Aero-Vol. Tour. 2,475
4055 5-p Brouette Sedan 3,225
4000 7-p Royal Sedan 3,225
4100 7-p Royal Limousine 3,325

CUNNINGHAM "V-6"
4600 7-p Touring \$6,300
4500 4-p Sp. Touring 5,800
4700 4-p Coupe 7,150
5000 6-p Limousine 7,650

DAGMAR "6-70"
3750 4-p Roadster \$3,500
3800 4-p Sp. Tourer 3,500
3700 4-p Phaeton 3,500
4200 4-p Petite Coupe 4,500
4200 4-p Petite Sedan 4,500
4500 4-p De Luxe Coupe 4,750
4700 5-p Sedan 4,700
4800 7-p Sedan 4,750

"6-60"
3100 4-p Roadster 2,185
3200 4-p Sp. Touring 1,985
3150 5-p Touring 1,785
3400 3-p Coupe 2,345
3500 5-p Sedan 2,345

DAVIS "90"
2650 4-p M. o'War Road. \$1,495
2915 4-p Legionnaire Tour. 1,495
2760 5-p Phaeton 1,395
5-p Sedan 1,595
3070 5-p Imperial Sedan 1,795
3065 5-p Berline Sedan 1,795

"91"
2835 4-p Roadster 1,795
3020 5-p Phaeton 1,695
5-p Sedan 1,895
3245 5-p Imperial Sedan 2,095
3215 5-p Berline Sedan 2,095

DIANA "St. 8"
2970 5-p Roadster \$1,895
5-p Phaeton 1,895
3245 5-p Std. Sedan 1,995
3245 5-p DeLux Sedan 2,195
3130 5-p Cabriolet 2,095
5-p Brougham 2,095

DODGE BROTHERS
2473 2-p Roadster \$ 855
2593 2-p Special Roadster 955
2567 5-p Touring 885
2695 5-p Spec. Touring 985
2708 2-p Coupe "B" 995
2823 2-p Spec. Coupe "B" 1,095
2995 5-p "B" Sedan 1,095
3077 5-p Spec. "B" Sedan 1,195
3020 5-p Sedan A 1,245
3107 5-p Spec. "A" Sedan 1,330
2723 5-p Coach 1,095
2823 5-p Spec. Coach 1,195

DORRIS "6-80"
4120 4-p Pasadena Tour. \$4,150
4115 7-p Touring 4,150
4193 4-p Coupe 4,985
4200 5-p Sedan 5,550
4310 7-p Sedan 5,800

SHIP. WT. PASS. BODY STYLE. PRICE

DUESENBERG
Straight "8"
3920 2-p Roadster †
3700 4-p Phaeton \$6,650
3920 4-p Phaeton †
3980 4-p Sp. Phaeton †
4-p Sedan †
4500 7-p Sedan †

†Manufacturers do not quote list prices.

DU PONT "D"
3300 2-p Roadster \$2,600
3550 5-p Touring 2,600
3800 7-p Touring 2,750
3550 5-p Touring Sedan 3,400

DURANT A-22
2-p Sp. Roadster 900
2225 5-p Touring 810
5-p Spec. Touring 930
2395 4-p Coupe 1,090
4-p Spec. Coupe 1,160
2505 5-p Sedan 1,150
5-p Spec. Sedan 1,280
2430 5-p Coach 1,050
5-p Spec. Coach 1,100

ELCAR "4-55"
2560 5-p Touring \$1,095
2779 5-p Coach 1,195
2930 5-p Sedan 1,395

"6-65"
5-p Touring 1,295
2779 5-p Coach 1,395
2900 5-p Sedan 1,595

"8-80"
4-p Roadster 2,315
3700 5-p Sp. Touring 2,165
7-p Touring 2,265
3000 3-p Coupe Roadster 2,315
5-p Sedan 2,265
4050 7-p Sedan 2,765
4000 5-p Brougham 2,865

ESSEX
2185 5-p Touring \$850
2370 5-p Coach 850

FLINT "55"
3325 4-p Sport Roadster \$1,950
3245 5-p Touring 1,595
3310 4-p Sp. Touring 2,050
3245 4-p Coupe 2,195
3595 5-p Sedan 2,285
3565 5-p Brougham 4 d. 2,735

"40"
2715 5-p Touring 1,285
2940 5-p Sedan 4 d. 1,680
2965 5-p Brougham 1,760

FORD Without Starter and Dem. Rims
1369 2-p Runabout \$260
With Balloon Tires 305
1494 5-p Touring 290
With Balloon Tires 335
With Starter and Dem. Rims
1521 2-p Runabout \$45
With Balloon Tires 370
1644 5-p Touring 375
With Balloon Tires 400
1749 2-p Coupe 520
With Balloon Tires 545
1882 5-p Sedan, Tudor 580
With Balloon Tires 605
1927 5-p Sedan, Fordor 660
With Balloon Tires 685

FRANKLIN "11-A"
2800 3-p Sport Roadster \$2,800
2845 5-p Touring 2,650
2965 3-p Coupe 2,700
3175 5-p Sedan 3,200
3080 5-p Sport Sedan 3,350
3275 7-p Limousine 3,500
3135 5-p Cabriolet 4,400

GARDNER "Series 5"
2680 5-p Coupe \$1,275
2895 5-p Sedan 1,475
3070 5-p Sp. Sedan 1,595
3070 5-p Touring 1,395
3200 5-p Brougham 1,595
3310 5-p Cabriolet 1,845
3320 5-p Sedan 1,795
3320 5-p Sport Sedan 1,895

"8"
3350 5-p Touring 1,995
4-p Cabriolet 2,245
3510 5-p Brougham 1,995
3620 5-p Sport Sedan 2,295
3600 5-p Sedan 2,495

GRAY "O"
1750 5-p Touring \$630
1880 3-p Coupe 845
2020 5-p Sedan 895
2130 5-p Royal Sedan 975

HAYNES "60"
3295 5-p Touring \$1,600
3650 5-p Brougham 2,200
3765 5-p Sedan 2,300

SHIP. WT. PASS. BODY STYLE. PRICE

HERTZ D-1
3360 5-p Sedan \$1,695

HUDSON "Super Six"
3425 7-p Phaeton \$1,250
3450 5-p Coach 1,250
3425 4-p Brougham 4 d. 1,595
3675 7-p Sedan 1,795

HUPMOBILE "R"
2595 2-p Roadster \$1,225
2705 5-p Touring 1,225
2760 2-p Coupe 1,850
2875 5-p Club Sedan 1,375

"E"
3050 2-p Roadster 1,795
3270 4-p Roadster 1,895
3135 5-p Touring 1,795
3295 2-p Coupe 2,095
3295 4-p Coupe 2,095
3410 5-p Sedan 2,195

JEWETT "23-25"
3025 4-p Roadster \$1,630
2835 5-p Touring 1,205
3015 5-p De Luxe Touring 1,320
2835 2-p Bus. Coupe 1,340
3025 5-p Sedan 1,580
3305 5-p De Luxe Sedan 1,780
3000 5-p Coach 1,260

JORDAN Series "A"
3330 2-p Playboy Road. \$2,575
3340 5-p Touring 2,575
3450 3-p Friendly "3" 2,875
3625 5-p Brougham 2,875
3520 4-p Victoria 2,775
3525 5-p Sedan 2,975
3470 7-p Sedan 3,325
3800 7-p Suburban Sedan 3,375

KISSEL "55"
3130 2-p Speedster \$1,895
2-p Sp'dster De Luxe 2,185
4-p Speedster 1,995
4-p Sp'dster De Luxe 2,285
3530 2-p Enc. Speedster 2,285
2-p Enc. Sp'd'r DeL. 2,785
3190 4-p Tourster 1,895
4-p Tourster De L. 2,085
5-p Phaeton 1,685
3170 5-p Phaeton De L. 1,885
7-p Touring 1,785
7-p Touring De L. 1,985
3430 4-p Coupe 2,185
4-p Coupe De Luxe 2,585
3540 5-p Brougham Sedan 1,995
5-p Broug. Sed. DeL. 2,685
5-p Brougham 2 d. 1,795
4070 7-p Sedan De Luxe 3,285
4010 7-p Berline Sed. DeL. 3,385
3530 5-p Victoria 2,285
5-p Victoria De Luxe 2,685

"75"
2-p Speedster 2,195
2-p Speedster De L. 2,485
4-p Speedster 2,295
4-p Speedster De L. 2,585
2-p Speedster De L. 2,585
2-p Enc. Sp'd'r DeL. 2,985
4-p Tourster 2,195
4-p Tourster De L. 2,385
5-p Phaeton 1,985
5-p Phaeton De Luxe 2,185
7-p Touring 2,085
7-p Touring De Luxe 2,285
4-p Coupe 2,485
4-p Coupe De Luxe 2,885
5-p Sedan 2,395
5-p Broug. Sed. DeL. 2,985
5-p Brougham 2 d. 2,195
7-p Sedan De Luxe 3,485
7-p Berl. Sed. De L. 3,585
7-p Victoria 2,585
7-p Victoria De Luxe 2,985

LEXINGTON "Concord"
5-p Touring \$1,595
5-p Touring (Enc.) 1,695
5-p Spec. Touring 1,795
5-p Sedan 2,185
5-p Spec. Sedan 2,445
"Minute Man"
2-p Roadster 2,145
5-p Touring 2,095
7-p Touring 2,195
5-p Lark Touring 2,345
5-p Cal. Touring 2,495
7-p Cal. Touring 2,495
5-p Royal Coach 2,495
5-p Brougham 2,595
5-p Sedan 2,895

LINCOLN
4380 2-p Roadster \$4,000
4595 7-p Touring 4,000
4565 4-p Phaeton 4,000
4-p Sport Touring 4,500
4655 4-p Coupe 4,600
4775 4-p Sedan 4,800
4825 5-p Sedan 4,900
4865 7-p Sedan 5,100
4945 7-p Limousine 5,300

Prices and Weights of Current Passenger Car Models

PRICE

SHIP.

WT.

PASS.

BODY STYLE.

PRICE

1,695

LOCOMOBILE "48"

5280

4-p

Sportif Tour

\$ 7,460

1,250

5380

7-p

Touring

7,460

1,250

5630

5-p

Victoria Sedan

10,050

1,595

5464

7-p

Brougham

10,040

1,795

5648

7-p

Touring Lim.

9,500

5868

7-p

Enc. Drive Lim.

10,050

5600

7-p

Cabriolet

10,300

1,225

"J-8"

1,225

2-p

Roadster

2,150

1,350

5-p

Touring

1,785

1,375

5-p

Sedan

2,285

5-p

Brougham

2,285

1,795

McFARLAN "6"

1,895

"SV"

1,795

3700

2-p

Roadster

\$2,650

2,095

2-p

Spec. Roadster

2,900

2,095

3600

5-p

Touring

2,650

2,195

7-p

Touring

2,750

1,630

3850

4-p

Coupe

3,180

1,205

3850

5-p

Sedan

3,180

1,320

5-p

Spec. Sedan

3,180

1,340

3850

7-p

Sedan

3,280

1,580

5-p

Sub. Sedan

3,380

1,780

7-p

Sub. Sedan

3,480

1,260

5-p

Brougham 4 d.

3,180

"TV"

4000

2-p

Roadster

5,400

2,575

4600

4-p

Sp. Touring

5,600

2,575

4900

4-p

Coupe

6,720

2,575

5200

4-p

Tour. Sedan

6,720

2,575

5200

7-p

Tour. Sedan

6,810

2,775

6-p

Sedan

6,720

2,775

7-p

Sedan

6,810

2,975

7-p

Spec. Sedan

6,810

3,325

7-p

Enc. Sedan

7,110

3,375

7-p

Sub. Sedan

7,110

5200

7-p

Town Car

9,000

1,895

MARMON

2,185

"74"

1,995

3695

2-p

Roadster

\$3,165

2,285

3604

5-p

Phaeton

3,165

2,285

3704

7-p

Touring

3,165

2,785

3604

5-p

Club Phaeton

3,465

2,785

3704

7-p

Club Touring

3,465

2,895

3799

5-p

Brougham Coupe

3,295

2,085

3729

3-p

Coupe De Luxe

3,455

1,685

3869

5-p

Sedan

3,295

1,885

3859

5-p

Sedan De Luxe

3,775

1,785

3999

7-p

Sedan

3,370

1,985

3974

7-p

Sedan De Luxe

3,850

2,185

3969

5-p

Sedan Limousine

3,900

2,585

3999

7-p

Sedan Limousine

3,975

1,995

MERCER

2,685

"6"

1,795

3860

3-p

Runabout

\$4,500

2,285

3950

6-p

Touring

4,500

2,385

3900

4-p

Sporting

4,500

2,285

4070

4-p

Coupe

6,250

2,685

4240

5-p

Sport Sedan

6,250

2,685

4350

4-p

Tour. Limousine

6,500

4300

4-p

Brougham

6,500

1,295

MOON

2,295

Series "A"

2,490

2490

5-p

Roadster

\$1,395

2,585

2675

3-p

Cab. Roadster

1,695

2,585

2510

5-p

Touring

1,295

2,985

2750

5-p

DeL. Sedan 2d.

1,695

2,195

2850

5-p

Sedan 4 d.

1,595

2,385

3850

5-p

DeLuxe Sedan 4d.

1,785

1,985

2,185

Newport

2,085

2760

5-p

Touring

1,495

2,285

2920

5-p

Sedan

1,815

2,485

3090

5-p

Petite Sedan

1,915

2,885

Metropolitan

2,395

2860

5-p

Touring

1,515

2,985

3020

5-p

Sedan

1,995

2,195

3190

5-p

Sp. Sedan

2,095

4,485

London

3,585

3270

5-p

Sp. Touring

1,985

2,585

3590

5-p

Petite Sedan

2,540

2,985

NASH

"Special"

1,595

2870

2-p

Roadster

\$1,095

1,695

2960

5-p

Touring

1,095

1,795

3120

5-p

Sedan 2d.

1,225

2,445

3270

5-p

Sedan 4 d

1,545

"Advanced"

(121 in. W. B.)

1,375

3320

3-p

Roadster

1,375

1,275

3400

5-p

Touring

1,275

1,485

3550

5-p

Sedan 2 d

1,485

"Advanced"

(127 in. W. B.)

1,525

3480

7-p

Touring

1,525

2,090

3640

4-p

Victoria

2,090

2,190

3750

5-p

Coupe 4 d.

2,190

2,290

4890

7-p

Sedan

2,290

1,025

OAKLAND

1,095

"6"

1,125

5-p

Touring

\$1,025

1,195

3-p

Coach

1,095

1,195

5-p

Landau Coupe

1,125

1,295

5-p

Sedan

1,195

1,295

5-p

Landau Sedan

1,295

890

OLDSMOBILE "30"

890

2145

2-p

Roadster

\$ 890

985

2270

2-p

Sp. Roadster

985

890

2200

5-p

Touring

890

PRICE

SHIP.

WT.

PASS.

BODY STYLE.

PRICE

1,015

2360

5-p

Sp. Touring

1,015

1,045

2330

2-p

Bus. Coupe

1,045

1,175

2460

4-p

Coupe

1,175

1,075

2410

5-p

Coach

1,075

1,150

5-p

De Luxe Coach

1,150

1,285

2570

5-p

Sedan

1,285

1,375

2740

5-p

De Luxe Sedan

1,375

OVERLAND "91" 4

(100 in. W. B.)

\$495

1919

5-p

Touring

\$495

635

5-p

Coupe

635

715

2205

5-p

Sedan De Luxe

715

655

2202

5-p

Std. Sedan 2 d.

655

"93" 6

895

2443

5-p

Sta. Sedan

895

1,150

2584

5-p

Sedan De Luxe

1,150

PACKARD

(126 in. W. B.)

\$2,785

3643

4-p

Roadster

\$2,785

2,585

3653

5-p

Touring

2,585

2,750

3595

4-p

Sp. Touring

2,750

2,585

3753

4-p

Coupe

2,585

2,585

3937

5-p

Sedan

2,585

(133 in. W. B.)

2,785

3793

7-p

Touring

2,785

2,785

4043

7-p

Sedan

2,785

2,885

4143

7-p

Sedan Limousine

2,885

"9"

3,950

4060

4-p

Runabout

3,950

3,750

4090

5-p

Touring

3,750

3,900

4023

4-p

Sp. Touring

3,900

4,650

4242

4-p

Coupe

4,650

4,750

4528

5-p

Sedan

4,750

(143 in. W. B.)

3,950

4199

7-p

Touring

3,950

5,000

4655

7-p

Sedan

5,000

5,100

4710

7-p

Sedan Limousine

5,100

PAIGE

"21-24"

\$2,165

3875

4-p

Phaeton

\$2,165

2,165

3935

7-p

Phaeton

2,165

2,195

3975

5-p

Brougham

2,195

2,395

4050

5-p

Broug. De Luxe

2,395

2,395

5-p

Sedan De Luxe

2,395

2,840

4325

7-p

Sedan De Luxe

2,840

PERLESS

"6-72"

\$1,895

3175

5-p

Touring

\$1,895

2,495

3425

5-p

Coupe

2,495

2,565

3500

5-p

Sedan

2,565

(133 in. W. B.)

2,285

3275

2-p

Roadster

2,285

1,995

3300

7-p

Touring

1,995

2,765

3700

7-p

Sedan

2,765

2,925

3825

7-p

Limousine

2,925

"8-67"

2,945

3950

4-p

Phaeton

2,945

2,990

3995

7-p

Phaeton

2,990

3,895

4300

5-p

Town Brougham

3,895

3,895

4310

5-p

Town Sedan

3,895

3,995

4400

7-p

Sub. Sedan

3,995

4,195

4525

7-p

Berline Lim.

4,195

3,545

4100

4-p

Victoria Coupe

3,545

3,595

4150

5-p

Sub. Coupe

3,595

PIERCE-ARROW

"33"

\$5,250

4350

2-p

Runabout

\$5,250

5,250

4500

4-p

Touring

5,250

5,250

4590

7-p

Touring

5,250

6,800

4730

3-p

Coupe

6,800

6,900

4800

4-p

Sedan

6,900

7,000

4960

7-p

Sedan

7,000

6,900

4750

4-p

Coupe Sedan

6,900

6,800

4730

6-p

Brougham

6,800

7,000

4850

7-p

Limousine

7,000

7,000

5060

7-p

Enclosed Lim.

7,000

7,000

4780

7-p

French Lim.

7,000

7,000

4730

6-p

Landaulet

7,000

"80"

2,895

3205

2-p

Roadster

2,895

3,095

3260

4-p

Phaeton

3,095

2,895

3385

7-p

Phaeton

2,895

3,150

5-p

Coach

3,150

3,820

3365

4-p

Coupe Landau

3,820

3,695

3335

4-p

Coupe

3,695

3,895

3440

5-p

Sedan

3,895

3,995

3560

7-p

Sedan

3,995

4,045

3615

7-p

Enc. Drive Lim.

4,045

REO

"T-6"

\$1,765

3350

2-p

Roadster

\$1,765

1,595

3182

5-p

Sp. Touring

1,595

1,645

3350

2-p

Coupe

1,645

1,975

3450

4-p

Coupe

1,975

1,645

3400

5-p

Sedan 4 d.

1,645

2,085

3545

5-p

Sedan 4d.

2,085

2,235

3705

5-p

Brougham 4 d.

2,235

REVERE

"25"

\$2,750

3900

2-p

Sp. Roadster

\$2,750

2,750

3975

4-p

Speedster

2,750

2,750

4050

5-p

Touring

2,750

3,800

4300

5-p

Sedan

3,800

"M"

3,200

3700

2-p

Roadster

3,200

3,200

3800

4-p

Sportster

3,200

3,200

3970

5-p

Touring

3,200

4,000

4400

5-p

Sedan

4,000

PRICE

SHIP.

WT.

PASS.

BODY STYLE.

PRICE

\$1,595

RICKENBACKER

"Six" (117 in. W. B.)

\$1,595

3-p

Roadster

\$1,595

1,495

5-p

Phaeton

1,495

1,695

3-p

Coupe Roadster

1,695

1,820

3-p

De Luxe

1,820

1,995

4-p

Coupe De Luxe

1,995

1,795

5-p

Spec. Sedan

1,795

1,920

5-p

De Luxe

1,920

2,070

7-p

Sedan De Luxe

2,070

1,595

5-p

Coach Brougham

1,595

1,720

5-p

De Luxe

1,720

"Eight" (121 1/2 in. W. B.)

1,995

3-p

Roadster

1,995

1,995

5-p

Phaeton

1,995

2,095

3-p

Coupe Roadster

2,095

2,220

3-p

De Luxe

2,220

2,195

5-p

Spec. Sedan

2,195

2,320

5-p

De Luxe

2,320

2,470

7-p

Sedan De Luxe

2,470

1,995

5-p

Coach Brougham

1,995

2,120

5-p

De Luxe

2,120

ROAMER

"6-50-55" (115 in. W. B.)

\$1,385

4-p

Roadster

\$1,385

1,295

5-p

Spec. Tourer

1,295

1,495

2-p

Bus. Coupe

1,495

1,495

5-p

Coupe

1,495

1,695

5-p

Sedan DeLuxe

1,695

"6-54-E" (118-138 in. W. B.)

2,385

4-p

Roadster

2,385

1,985

4-p

Tourer

1,985

2,285

4-p

Sport

2,285

2,285

7-p

Tourer

2,285

2,750

3-p

Cabriolet

2,750

"4-75-E" (128 in. W. B.)

"Custom Built"

3,485

2-p

Speedster

3,485

3,285

3-p

Sport

3,285

2,985

4-p

Tourer

2,985

"8-88" (138 in. W. B.)

2,750

4-p

Roadster

2,750

2,750

5-p

Sport

2,750

2,495

5-p

Tourer

2,495

2,585

7-p

Tourer

2,585

2,985

2-p

Speedster

2,985

2,950

3-p

Cabriolet

2,950

3,785

5-p

Spec. Sedan

3,785

W. B. (136-in.)

3,285

7-p

Sedan

3,285

2,895

5-p

Brougham

2,895

ROLLIN

\$1,155

2360

5-p

Touring

\$1,155

1,325

2405

3-p

Coupe

1,325

1,325

2595

5-p

Brougham

1,325

1,455

2575

5-p

Sedan

1,455

ROLLS-ROYCE

Chassis

††

Manufacturers do not quote list prices.

STANLEY

"252"

\$2,500

3400

5-p

Phaeton

\$2,500

3,300

3800

5-p

Sedan

3,300

STAR

\$540

1725

2-p

Roadster

\$540

540

1805

5-p

Touring

540

625

1860

2-p

Couper

625

715

1915

2-p

Coupe

715

750

2090

5-p

Sedan 2 d.

750

820

2155

5-p

Sedan 4 d.

820

Mechanical Specifications of Current Passenger Car Models

This list comprises cars distributed on a national basis

[illegible]

A Contract Your Banker Will Back

What sells cars with the least resistance? You know it's quality, distinction and an attractive price.

What is the only thing that makes these sales worth while to you? The kind of a contract that recognizes your right to a net profit on every sale.

The Moon product and the Moon contract contain all these elements of a successful, permanent and profitable business.

Moon does not force cars on the dealer. You buy what you need only when you need it. Moon recognizes the existence of a used car market. You do not have to pile up the iron in the rear to force the sale of a surplus of new cars in the front.

Here's another thing for you to remember. *As long as there is an automobile business there will be Moon cars and successful Moon dealers.*

Moon has produced \$179,000,000

worth of motor cars. It is part of a \$75,000,000 group of America's greatest specialists. Their unlimited engineering and manufacturing facilities are allied with Moon to insure the greatest value that can be built into a motor car.

Another unit of this powerful combination is the new Diana Straight "8" which is also sold by Moon dealers.

It gives you the most complete line of quality sixes and eights—at sales-compelling prices—that any dealer can acquire.

Finally the Moon finance plan enables you to buy your cars on terms that do not tie up a lot of your capital. It is a contract your banker will approve because he knows instinctively that it is a good business risk.

Moon has a message that you will be glad to know even if it only serves to show you the difference between the conventional dealer franchise and the one that Moon offers.

Better write us and find out about it.

Touring Car .. \$1295
Roadster \$1395

Standard 4-door Sedan . \$1595
Cabriolet Roadster . . . \$1695

2-door DeLuxe Sedan . \$1695
4-door DeLuxe Sedan . \$1785

(All prices f. o. b. St. Louis)

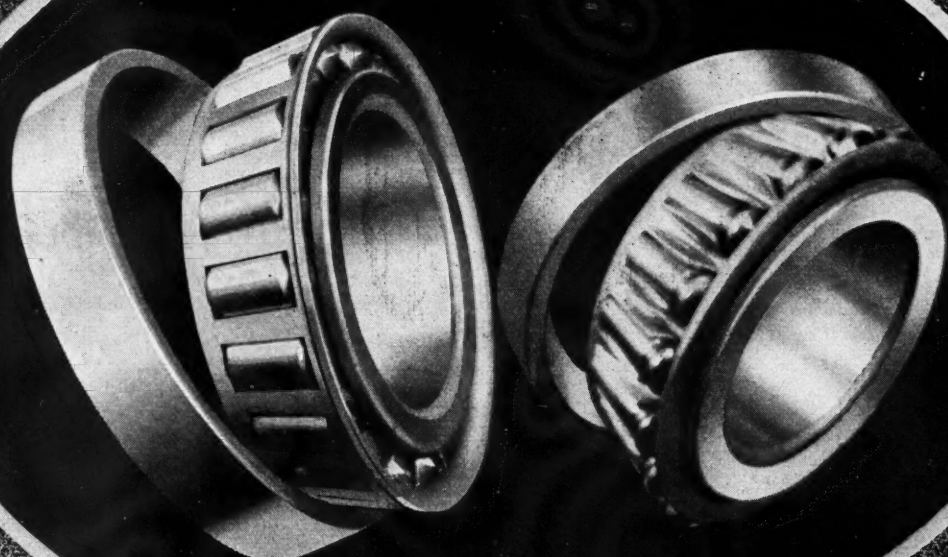
MOON

MOON MOTOR CAR CO. / ST. LOUIS, / U. S. A.

Mechanical Specifications of Current Passenger Car Models—Continued

(This list comprises cars distributed on a national basis)

ENGINE										ELECTRICAL SYSTEM		REAR AXLE		BRAKES		Chassis Lubrication—Type and Make		ABBREVIATIONS—NAMES OF MFRS. OF STOCK PARTS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
Wheel Base (Inches)	Tire Size	Decimals-Balloons	Make and Model	Number of Cyls.	Rated H.P.	Piston Displacement	Valve Arrangement	Camshaft Drive	Crankcase Inter-fer or Sep.	Piston Material	No. Main Bear.	Oiling System	Cooling System	Thermostat	Carburetor	Air Cleaner?	Ignition System		Generator and Starter Make	Clutch—Type and Make	Gear Set—Make	Universal—Type and Make		Type and Make		Type and Make	Length																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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Better Bearings—Better Cars

THE tremendous increase in the use of Bock Bearings this year is a good thing for the public buying Bock-equipped cars, for the manufacturers making them and for the dealers selling them.

Easier running because of Bock's patented round head rollers may be measurable only by the engineer, but the car owner benefits never-the-

less, and praises the car to his friends and neighbors.

Freedom from bearing trouble for the life of the car—that's something that any owner will appreciate who has had his grief on the other score, as so many have.

Bock Taper Roller Bearings are a super-fine product, made on the principle of

Not how many bearings per minute—But how many miles per bearing

THE BOCK BEARING COMPANY
TOLEDO, OHIO

BOCK TAPER ROLLER
BEARINGS
Quality Built Into the Car

W—Watford
X—Sleeve valve
Y—Yes

Q—Quarter, elliptic
R—Rear, elliptic
S—Semi-elliptic
S—Semi-elliptic

Ow—Oil cups with wick feed
P—Single plate
Pr—Pressure gun

I—Internal four wheels
J—Three-quarter elliptic
K—Cone

E—T—External transmission
F—Full floating axle
G—Full floating axle

H—Semi-steel
H—F—Both internal and external floating axle
C—Chain

Now nationally distributed

The first practical device for oiling the combustion chamber



*The joy of power
perfectly
controlled!*

THE thrill of power and the joy of speed! The feel of a mighty force obedient to your will—responsive to the lightest touch on the throttle. Power perfectly controlled. Those are the things the makers build into the car.

Yet how soon valve troubles rob your engine of its first perfect dependability.

Craverailer restores to the old engine its lost youth and keeps the new engine vigorous and vital. With Craverailer the car throttles down to a snail's pace or leaps ahead like a greyhound. Or throws every ounce of its horsepower into the long up-grade pull.

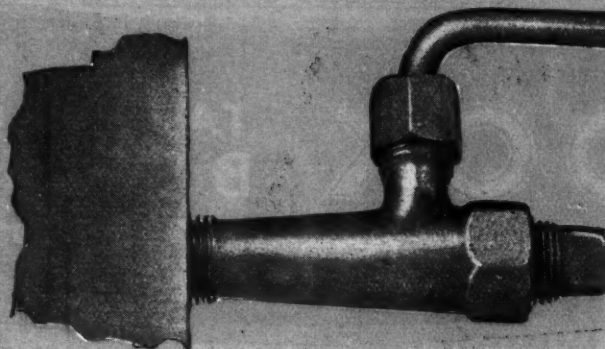
FOR YEARS car manufacturers have realized the necessity for lubricating the working parts of the combustion chamber—the valves, stems, guides and piston rings, which must now perform their duties without oil in a temperature ranging from 180 to 3000 degrees. Yet these manufacturers have never succeeded in perfecting a device for the purpose.

For years the motorist has put up with the annoyance of engines that miss and buck at low speeds because of sticking or sticky valves. And the service station has been able to suggest no remedy except valve grinding.

Craverailer comes as a happy solution to this, the most baffling of modern automotive problems.

The Craverailer is a simple but effective device which introduces Craverail, a special combination of vegetable and mineral oils, into the manifold in vaporized form. Mixed with the gas vapor, Craverail enters the combustion chamber and thoroughly lubricates every working part. The result is a smoother functioning engine which utilizes its power without waste, and the indefinite postponement of the necessity of grinding the valves.

Before marketing the Craverailer nationally, The Miller Lock Company has thoroughly tested it in a single territory. During the past year Craverailer has been in successful operation on thousands of cars in and around Philadelphia. The results have proved beyond a shadow of a doubt that Craverailer is past the experimental stage, and ready to meet the broad national demand that exists for such a device.



CRAVEROILER

PATENTED MAY 6TH 1925

THE COMBUSTION CHAMBER LUBRICATOR

\$1250

**FITS
ANY
CAR**

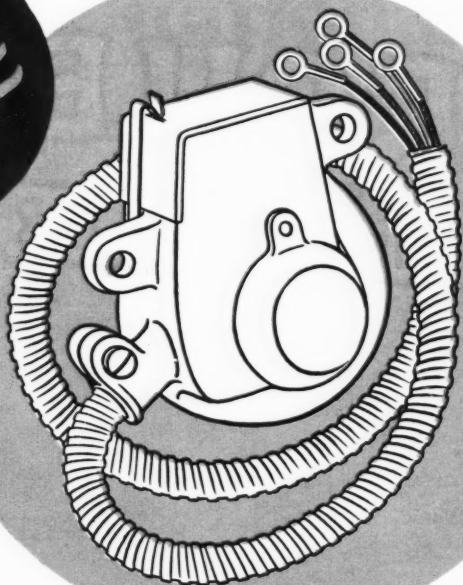


CRAVEROILER COMPANY of AMERICA

Division of MILLER LOCK COMPANY

Frankford, Philadelphia, U. S. A.

\$4.80



*Here's
Something
NEW*

The Kingston ^{L-T} Distributor-Timer

Here is a high class distributor selling at the price of an ordinary timer.

Different in design and principle, handsome, splendidly made, it offers the dealer a year around seller on a highly profitable basis. There is a big waiting demand for a distributor of this high character.

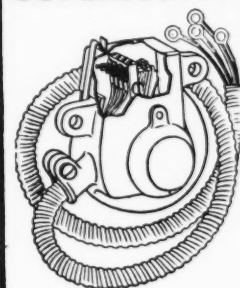
Four sets of adjustable contact points, extra large size; contact levers positive in operation; cables contained in flexible metal conduit; quadrate breaker cam (4 cams in one) of best tool steel; points solidly assembled in bakelite.

Let the KINGSTON lead your spring sales

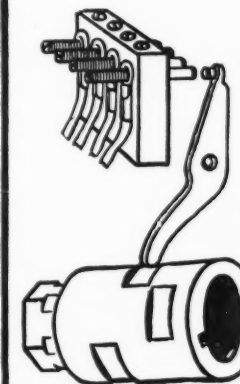


KINGSTON

Points of SUPERIORITY~



Case of aluminum Cables in flexible metal conduit.

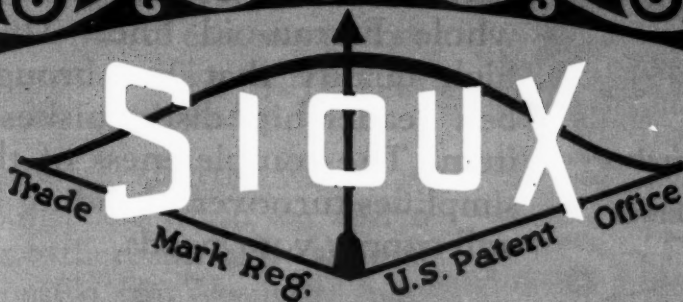
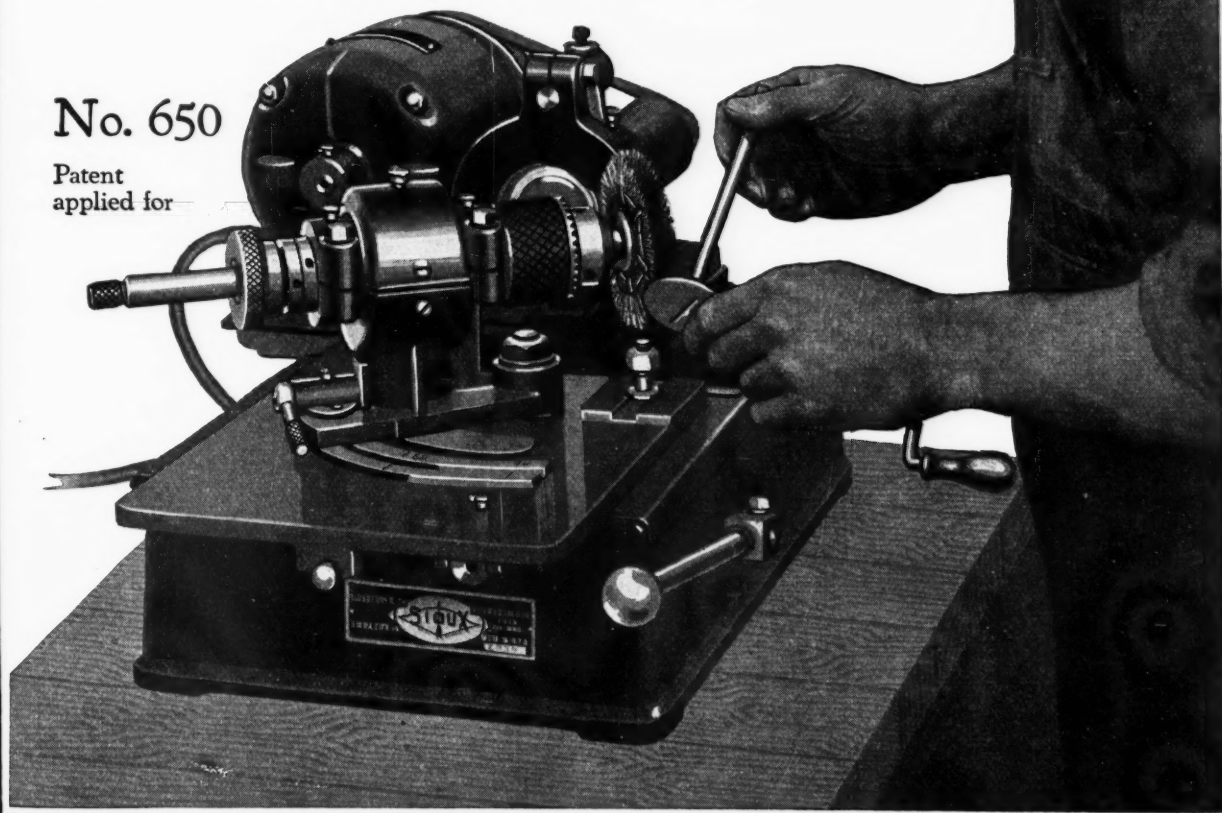


Details of point assembly in block of bakelite fibre, with contact lever and quadrate cam. Points extra large and of best material. All parts quickly and easily replaceable.

Showing Sioux Valve Face Grinding Machine
with Carbon Removing Attachment

No. 650

Patent
applied for



VALVE FACE GRINDING MACHINE

Better Be Safe Than Sorry

Investigate the Sioux Before You Buy

Your Jobber Sells It

ALBERTSON & CO., Sioux City, Iowa



Many dealers have found the answer—

it's FARRAN-OID

NOT getting enough fan belt business? You can double it—the Farran-oid way. Many dealers have proved this.

First you have quality. The belt stays sold—brings repeat orders—you are not identified with the failure of a cheap belt; there is a popular demand—advertising increases it—performance holds it; the profit margin is generous; AND we offer you a real sales plan—your jobber will gladly explain.

Round out the advantages of Farran-oid Fan Belts by pushing the whole Farran-oid line. The same high quality that has brought fan belt leadership distinguishes every item. The completeness of the line simplifies turnover. Leading jobbers will supply your needs.

Farran-oid Fan Belts
Farran-oid Garage
Air Hose
Farran-oid Car Washing
Hose
Farran-oid Door Checks
Farran-oid Radiator
Hose
Farran-oid Tire Flaps
Farran-oid Blowout
Patches
Farran-oid Tube Patches
Farran-oid Ford Floor
Mats

THE FARRAN-OID COMPANY, Akron, Ohio

Farran-oid
Products

A FREE Parts Department Planning Service

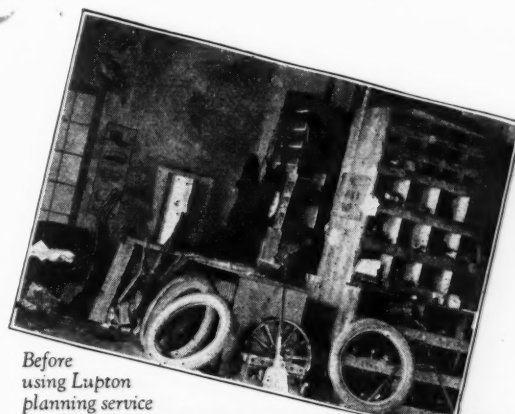
IF YOU are contemplating a new parts department or a change in your present parts department, send us drawings or rough sketch of your floor plan with measurements plainly marked, mentioning make of car you handle and the approximate value at list price of parts stock you intend to carry.

We have spent years in the study of the parts department as applied to the dealer's place of business. Also our intimate knowledge of dealer establishments, gained through the manufacture and erection of steel window sash, has particularly fitted us to help dealers lay out buildings and parts departments for the most economical sales and service.

On receipt of your building plans or rough sketch of the floor area to be used for your parts department, floor measurements to be included, we will supply you free, without obligation of any kind, our suggested parts department layout in blueprint form, adapted to your particular requirements. We can assure you of economy in floor space and arrangement that will save money for you every business day in the year.

Attach drawing or blue-prints together with measurements and any suggestions which you wish to include in your plans, to the coupon below and mail to David Lupton's Sons Co., 2631 Woodward Ave., Detroit, Mich. Your plans will be sent promptly—free of charge—with no obligation to you.

We are also experts in parts department and accessory merchandising. Send for this valuable merchandising information, specially prepared in book form.



Before using Lupton planning service



After using Lupton planning service

BETTER Parts and Accessories MERCHANDISING

DAVID LUPTON'S SONS CO.
2631 Woodward Ave., Detroit, Mich.

☐ Please furnish me, free of charge, blue-printed drawing of my parts department as recommended by you. Attached is drawing of my floor plan or building, together with necessary measurements and recommendations I would like to have included. ☐ Please send your free booklet, "Better Parts Merchandising."

Name

Street

City State

Dealer in cars

DAVID LUPTON'S SONS CO.

Founded 1871

Main Office and Factory: PHILADELPHIA

SALES OFFICE: 2631 Woodward Ave., DETROIT



Be Sure! Use Tested Brake Lining

How do you know the next length of brake lining you use will make a good job?

Are you trusting to luck that because some other pieces of the same brand have turned out well, the next piece will? You don't even know how many of the old jobs have lasted.

Do some of your customers never come back? Why?

This brake lining question is a deep one after all, because the strength lies mostly inside where you can't see it.

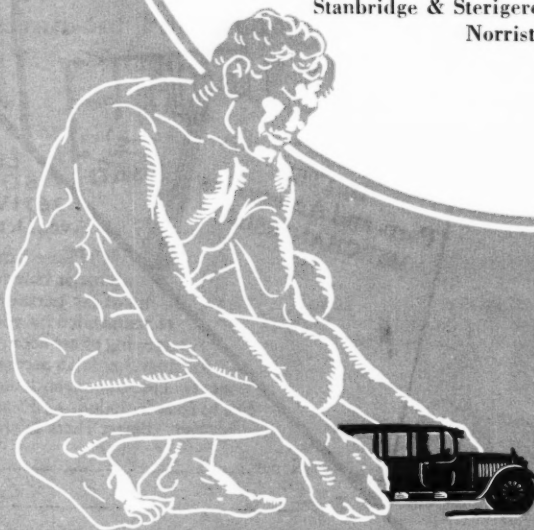
But TESTBESTOS users know that the next length will be the best there is, and that every piece they have ever used was right up to top standard.

They know this because every foot is tested and absolutely guaranteed. The TESTBESTOS label is surety that only selected asbestos was used, with the proper fiber requirement and fine brass wire, that this was woven by our special hard-knotting process, and given the secret TESTBESTOS treatment. Then it was inspected and TESTED.

There's a TESTBESTOS jobber near you. Write us for his name.

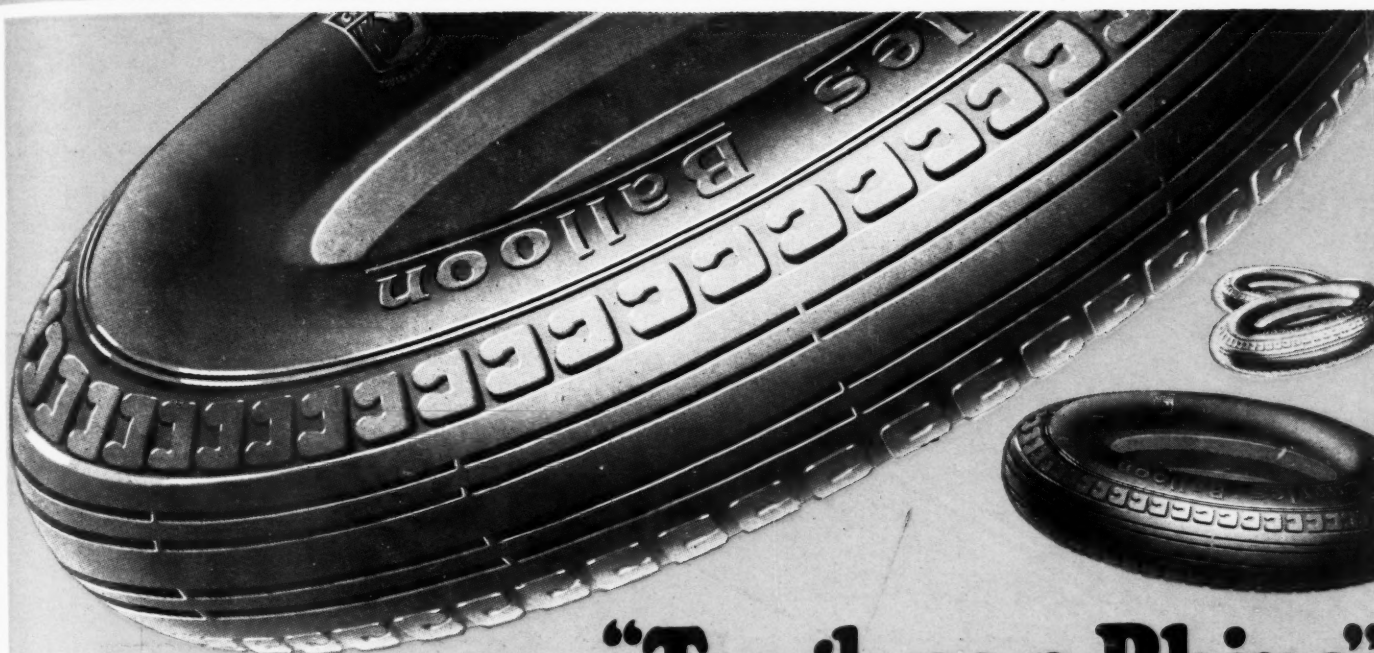
American Asbestos Company

Stanbridge & Sterigere Sts.
Norristown, Pa.



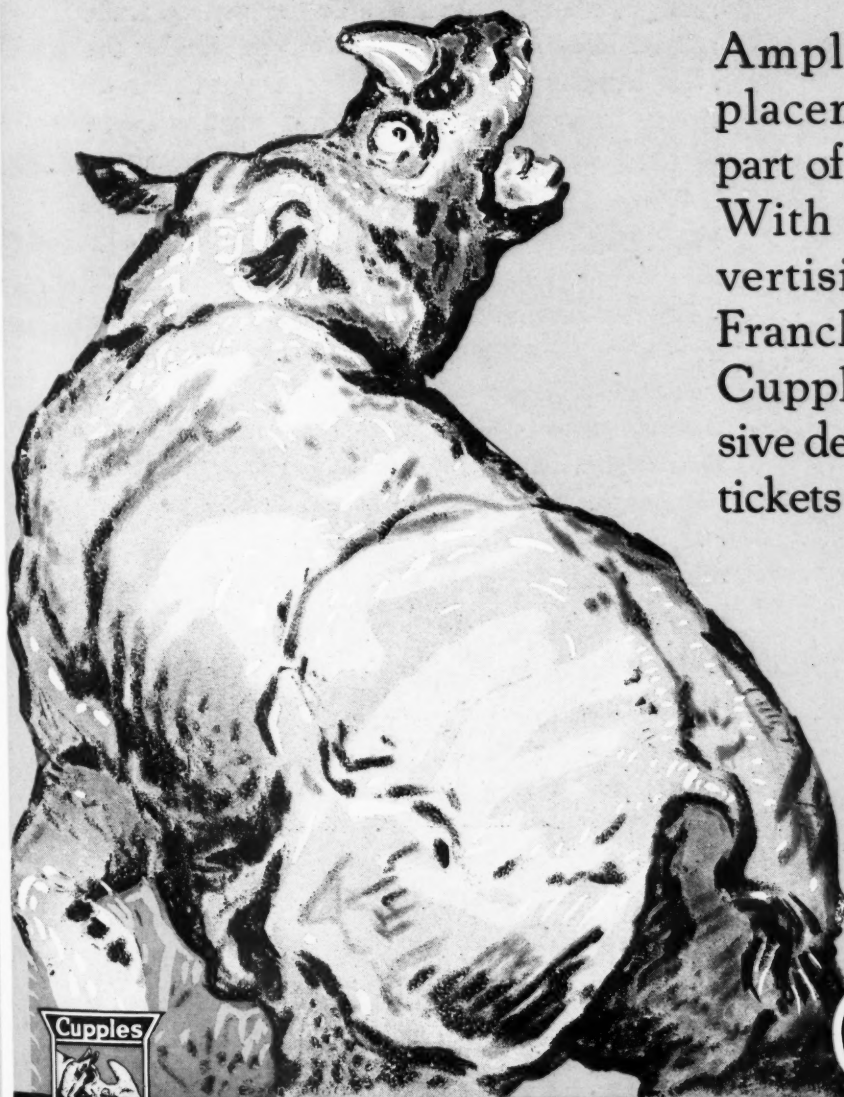
REG. U.S. PAT. OFFICE
TESTBESTOS

The Unseen Giant of the Brakes



"Tough as a Rhino"

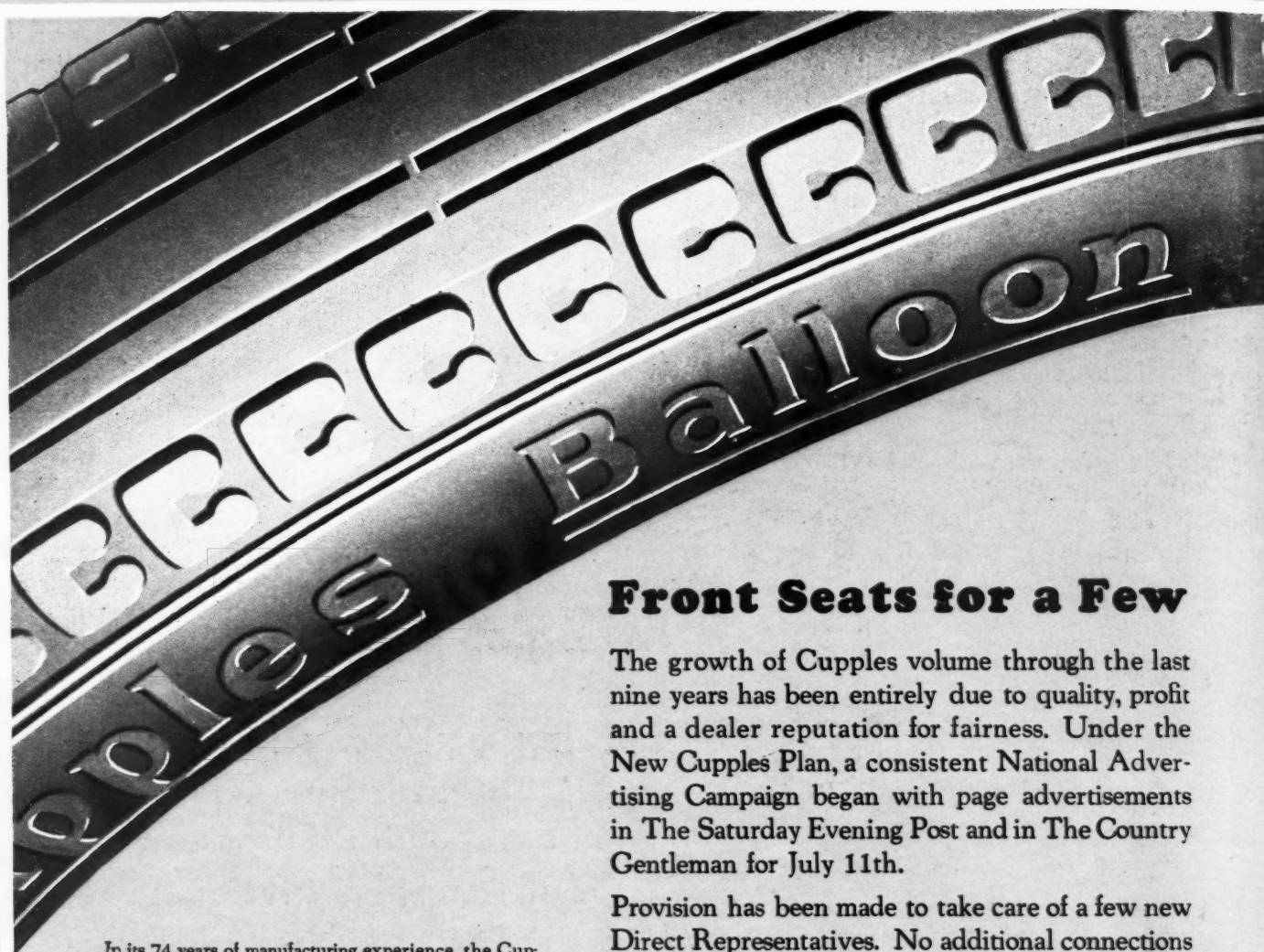
Ample provision for all replacement business is a vital part of the New Cupples Plan. With Cupples National Advertising, the New Cupples Franchise, and the Complete Cupples Line—a few aggressive dealers can write their own tickets for future business.



Cupples

TIRES TUBES





In its 74 years of manufacturing experience, the Cupples Company has always endeavored to give its representatives a complete line of merchandise. The basic factor that has made these 74 years a record of 74 years of success may be said to be the Cupples policy of making its contacts such as to secure the close and friendly cooperation of Cupples customers through the observance of these principles that contribute to mutual satisfaction and profit. The few large tire dealers with whom we now invite correspondence will find the basic factors that they seek have long been cardinal principles of the Cupples organization.

CUPPLES CORD TIRES
Oversize Fabric Size Extra Heavy

CUPPLES BALLOON CORDS
Full Size Inter-changeable

CUPPLES INNER TUBES

Front Seats for a Few

The growth of Cupples volume through the last nine years has been entirely due to quality, profit and a dealer reputation for fairness. Under the New Cupples Plan, a consistent National Advertising Campaign began with page advertisements in *The Saturday Evening Post* and in *The Country Gentleman* for July 11th.

Provision has been made to take care of a few new Direct Representatives. No additional connections will be sought until production facilities are further increased. Six-Ply and Four-Ply Balloons, Fabric Size and Over-Size Cords, Extra-Heavy Truck and Bus Cords, Tubes—and the X-ton Price Line give the dealer the variety he must have to capitalize on all sales opportunities.

Cupples Advertising, the Cupples Policy, and the Cupples Product will appeal to those dealers who have come through the last few years with a new appreciation of *solidity, permanence*, and of the importance of a program built for future growth.

Wire or Write us Today

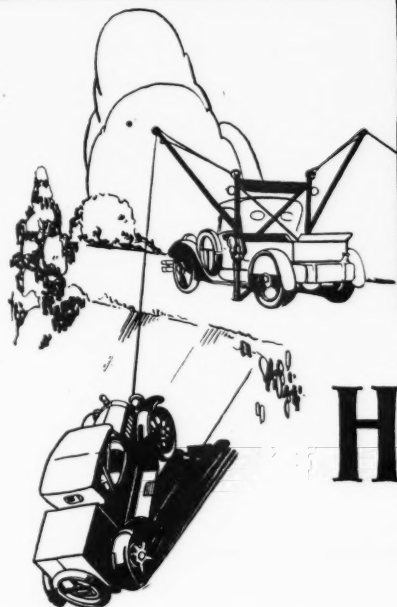
CUPPLES COMPANY · SAINT LOUIS
A National Institution Since 1851



Cupples

TIRES TUBES





HOLMES WRECKERS

Our Surest Money Makers

While other garages are waiting for business to "pick-up" we are out "picking up" business with our Holmes Wreckers.

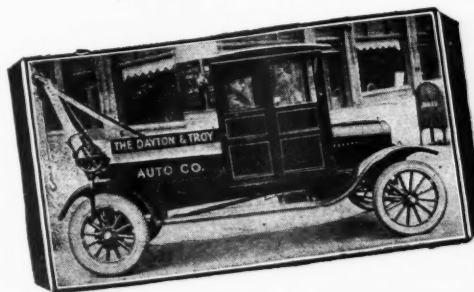
They are increasing our business by leaps and bounds. The profit from Road Service alone has far exceeded our expectations but these profits are not "One, Two, Three" as compared with the money we are making from the repair work. Almost without fail every car that we bring in is turned over to us for repairs and what is more, this is the cleanest, biggest and most profitable that we get. We are Holmes Boosters, for Holmes Wreckers have certainly boosted our business.

Garage men, who are sitting around waiting for jobs to come in, had better take our advice and get a Holmes Wrecker and let it go out after the business. It will pay its own way and bring you a big profit besides. It is the best investment you can make.

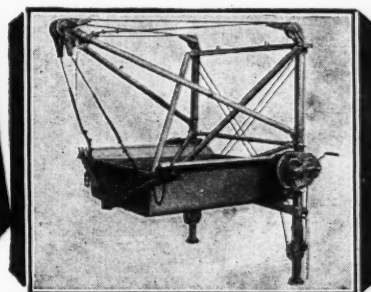
D. M. S. Motor Service Co.

Holmes Wreckers know no favorites. What they have done for others they will do for you. Let your Jobber tell you about the three types of Holmes Wreckers or write this Company for catalog and full information.

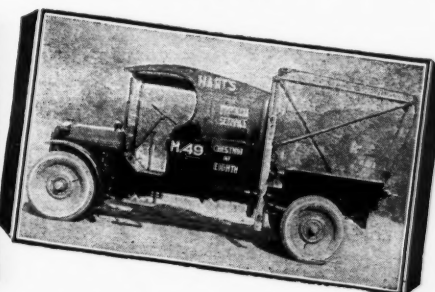
ERNEST HOLMES COMPANY, Chattanooga, Tenn.



Holmes Wrecker No. 110



Holmes Wrecker No. 485



Holmes Wrecker No. 250

Not a single change necessary

Too
NIMS PUMP
for
FORDSONS
\$15.

3/4 of the
Ford water
supply is
above the
NIMS

The Ford fan was designed to pull air. It shouldn't be asked or expected to pull a pump.

So, the Nims Pump, located directly above the fan is driven by a multiply belt that rides right over the regular Ford fan belt.

You can see how easy the Nims Pump is to install—and how it is always out of the way.

But, you'll never know all the satisfaction features until you've sold half a dozen Nims Pumps to hot Ford customers.

We suggest you get started now by ordering the first half dozen from your jobber today.

You can moneyback them to your customers. We moneyback them to you.

JOBBER: Complete warehouse stocks carried at Philadelphia—Quick deliveries.

NIMS PUMP CO.
STOCKTON, CALIF.

Eastern Office and Warehouse,
201 No. Broad St., Philadelphia, Pa.

DEALERS:
SEND FOR
ATTRACTIVE
COUNTER
DISPLAY
CARD.

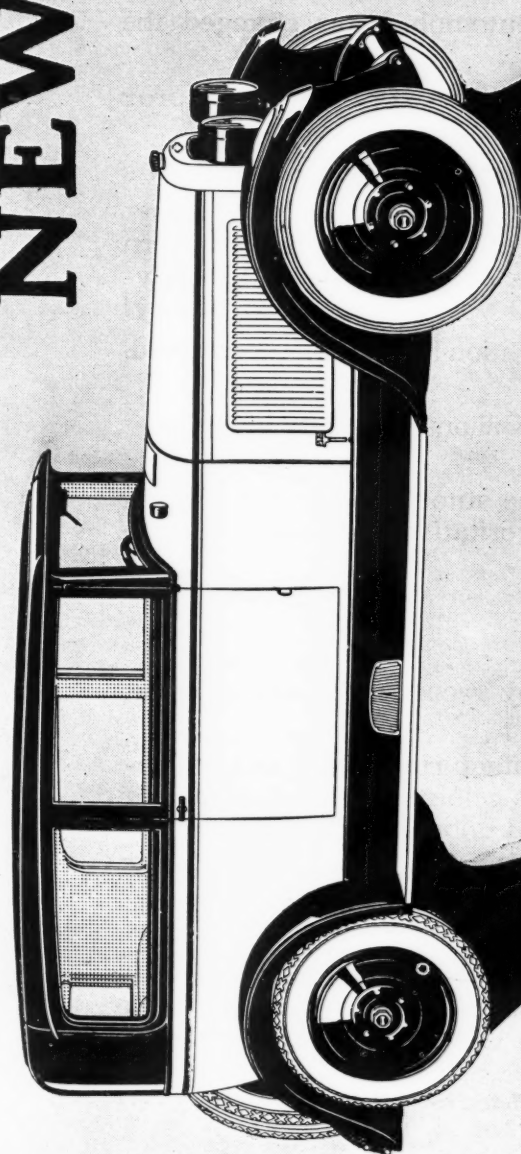
\$5

NIMS
Pump for Fords

NEW MODELS!

Now on Display

**New Body Designs!
Engineering Refinements!**



**Special Six Series
Advanced Six Series**

NASH

A Daily Newspaper to Serve the Greatest Industry in the World

JUST as every great division of human thought and endeavor has had its mouthpiece, its spokesman, so will the Automotive Industry—the greatest industry in the world—now have its own news gathering organ.

Automotive Daily News

featuring *all* the news of *all* the Industry—is to be a *daily newspaper* devoted to every phase of motordom and allied industries.

America is a nation on wheels—the automobile has changed the thoughts and habits of a world!

More than a hundred million people thinking in terms of Motor Transportation!

More than eighteen million motor vehicles supplying this transportation!

The automobile has opened the highways of the world—broken down territorial limits and in 20 years done more toward unifying and solidifying all peoples than any other force in 6000 years of recorded history!

The industry today supplying this transportation is, all things considered, one of the most important in all the world!

More than a million workers employed—Billions of dollars invested—And the industry still growing!

The wonder is that this wonder worker, the automobile, and the industry back of it, has not long ago had an authoritative and reliable source of daily news!

It was bound to come!

It is here!

The Automotive Daily News—edited by recognized authorities in American Industrial Journalism!

Devoted to automotive engineering, manufacturing, retail and wholesale merchandising and advertising, the news columns of the Automotive Daily News will be reliable, authoritative and unbiased.

Live news, complete, thorough, and up-to-the-minute, from all parts of the country from hundreds of trained automotive writers—about every phase of the Industry.

The editorial policy of the Automotive Daily News will be honest, for the advancement of the industry as a whole, and the welfare of all its ramifications and interests. Publication date will be announced shortly.

Page size: 5 col. x 14¼ in. • Size of issue: 8 to 32 pages • Pub. dates: Every day except Saturday and Sunday
Subscription: per year, \$12.00

Automotive Daily News

The **Automotive Daily News** will be to the automotive industry what the "Wall Street Journal" is to financial America, what "Women's Wear" is to the garment industry, and what the "American Metal Market and Daily Iron and Steel Report" and "Daily Metal Trade" are to the steel industry.

AUTOMOTIVE DAILY NEWS PUBLISHING CO., Inc.

EDITORIAL HEADQUARTERS:
25 City Hall Place, New York City

ADVERTISING HEADQUARTERS:
1926 Broadway, New York City
Detroit Bureau, General Motors Bldg.

AUTOMOTIVE DAILY NEWS, 1926 Broadway, N.Y.
Please enter subscription to the Automotive Daily News
for a period of 1 year beginning with the first issue.

☐ \$12 enclosed

☐ Send bill for \$12.

Name _____

Street _____

City _____

State _____



Vesta Isolator Key

It Always Pays Best To Buy and Sell Quality

Vesta Centrals

ALBANY MOTOR SPECIALTY CORP., 421-3
Orange St., Albany, N. Y.
SOUTHERN MOTOR EQUIPMENT CO., 216
Spring St., Atlanta, Ga.
BOICE MOTOR EQUIPMENT CO., 562 Com-
monwealth Ave., Boston, Mass.
VESTA BATTERY SALES CO., 21st St. at
Chester, Cleveland, Ohio.
EQUIPMENT SERVICE CO., 13th Ave. at
Lincoln, Denver, Colo.
AUTO ELECTRIC & SERVICE CORP., 91
Selden Ave., Detroit, Mich.
THE FAETH COMPANY, 1117 W. 8th St.,
Kansas City, Mo.
McCLELLAND - FELTHOUSE CO., 1358
Figuerroa St., Los Angeles, Cal.
LOUISVILLE AUTO SUPPLY CO., 754
South First St., Louisville, Ky.
REINHARD BROS. CO., 11 S. 9th St.,
Minneapolis, Minn.
WALTHER BATTERY & EQUIPMENT CO.,
722-4 Howard Ave., New Orleans, La.
P. J. DURHAM CO., 244 W. 49th St., New
York, N. Y.
OMAHA BATTERY CO., 2212 Harney St.,
Omaha, Neb.
J. H. McCULLOUGH & SON, 257 N. Broad
St., Philadelphia, Pa.
AXWELL EQUIPMENT CO., 240 2nd Ave.,
Pittsburgh, Pa.
THE SALT LAKE HARDWARE CO., Salt
Lake City, Utah.
EQUIPMENT SERVICE CO., 2631 Locust
St., St. Louis, Mo.
SOUTHERN EQUIPMENT CO., San Antonio,
Texas.
WATERHOUSE & LESTER CO., 540 Howard
St., San Francisco, Cal.
M. E. SIMS CO., INC., 933.5 12th St.,
Seattle, Wash.
SPOKANE BATTERY & IGNITION CO.,
1201-3 W. Sprague Ave., Spokane, Wash.
FRED CAMPBELL AUTO SUPPLY CO.,
656-8 Walnut St., Terre Haute, Ind.

The chances of making money in your busi-
ness are in direct proportion to the profit
value of the merchandise you sell.

Quality products maintain their selling ap-
peal regardless of competition. Quality prices
and profits hold up.

That is why there are so many successful
Vesta dealers. They sell their product for
what it is worth—which is plenty, and easy
to get.

VESTA

COSTS LESS PER MONTH OF SERVICE

VESTA BATTERY CORPORATION

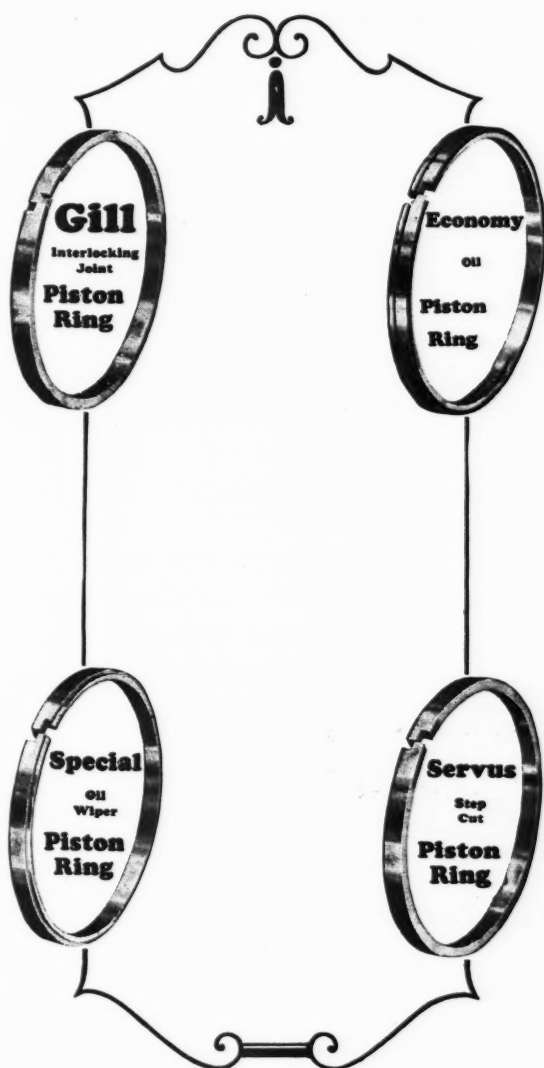
2100 Indiana Ave.

Chicago, Ill.

Gill



Products of Quality



Pistons-Rings-Pins

The responsibility attached to reconditioning and replacements, demands dependable products with which to work. GILL Products of Quality installed throughout, insure satisfactory service—which is one reason why so many GILL Pistons, Pins and Rings are being used each day.



Gill Manufacturing Co., 8300 South Chicago Ave., Chicago, Ill.



features that sell
the new Chevrolet

ARE you ready for fall?

Chevrolet furnishes its dealers with sales plans that have been proved practical and that assure increased sales results.

It is this kind of factory sales cooperation that helps Chevrolet dealers to make money the whole year round.

CHEVROLET MOTOR COMPANY, DETROIT, MICH.
DIVISION OF GENERAL MOTORS CORPORATION



for Economical Transportation

QUALITY AT LOW COST



Two continents say, "Good-bye, buggy wheels ... Here's BUDD-MICHELIN!"

IT'S BEEN a long struggle to evolve the modern automobile from the first "horseless carriage"—that hybrid which looked like a buggy and acted like a mule . . .

A long struggle to achieve today's marvel of beauty and power . . . to get the "buggy" out of the body and the mule out of the motor!

Every time that makers improved the motor or added more cylinders they had new selling points to demonstrate.

Every time they refined the body they had something new to talk about.

But no one ever talked about the wheels. The wheels couldn't help sell a car. They remained glorified buggy wheels—a collection of wooden spokes

that never looked as if they "belonged."

Then a great engineer decided an automobile should have wheels of its own. He studied the new problems which have arisen since the automobile was first invented—the problems of greater speed and weight—the problems of braking and steering.

He found only one material fit for the job. *Steel!*

He perfected a new *convex* design, using the resilience of steel to the utmost to save the car from road shocks.

Permitting the placing of brakes and king pins within the wheel, for more positive braking and easier steering.

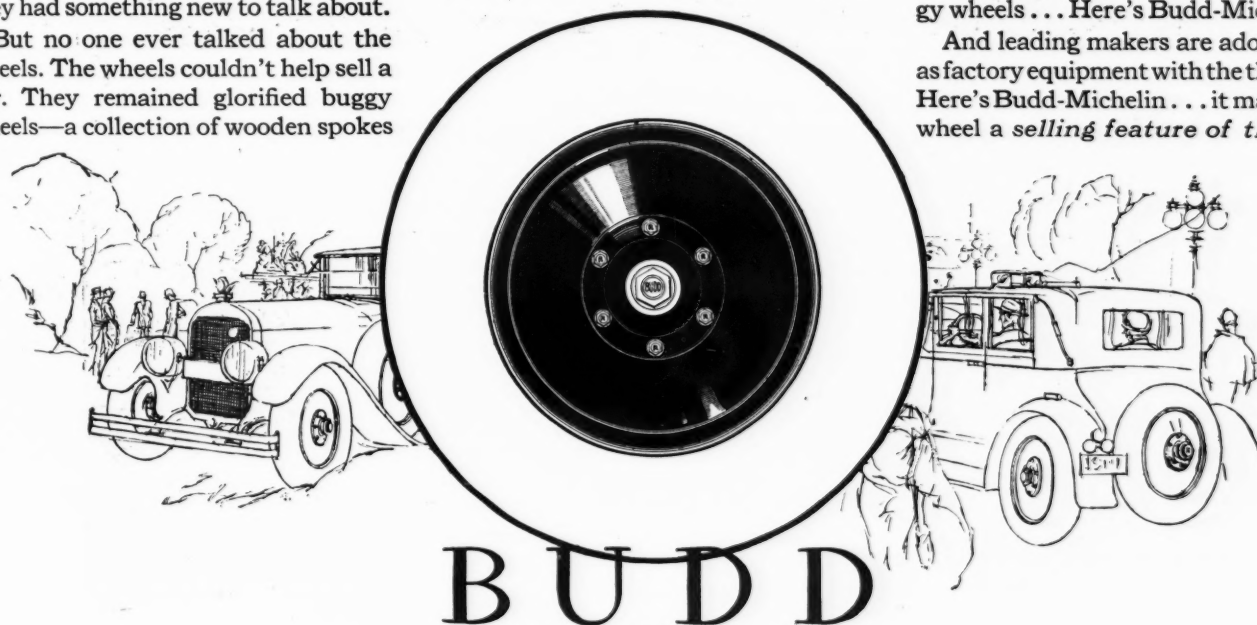
Giving the brakes greater protection from mud and water.

The Budd-Michelin Wheel!

No other wheel can have its exclusive design and exclusive features. In Europe it is used on more than half the cars made . . . in America it carries more motor vehicles than all other steel wheels combined.

Two continents say, "Good-bye, buggy wheels . . . Here's Budd-Michelin!"

And leading makers are adopting it as factory equipment with the thought: Here's Budd-Michelin . . . it makes the wheel a *selling feature of the car!*



BUDD

WHEEL COMPANY

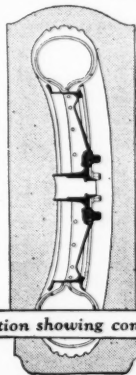
Detroit

Philadelphia

BUDD-MICHELIN—the All-Steel Wheel gives you these advantages:

—a scientific convex form, increasing resilience and permitting the placing of brakes and king pins *within* the wheel, for better braking and easier steering—for greater protection of brakes from mud and water

—a demountable wheel which hides the brakes, but gives immediate access to them when adjustments are needed



Cross-section showing convex design

—a light wheel (lighter than wood), tapering toward the rim, making starting and stopping easier

—five wheels to a set. An extra wheel to dress up the rear of the car, easy to substitute in case of tire trouble. No rims to remove

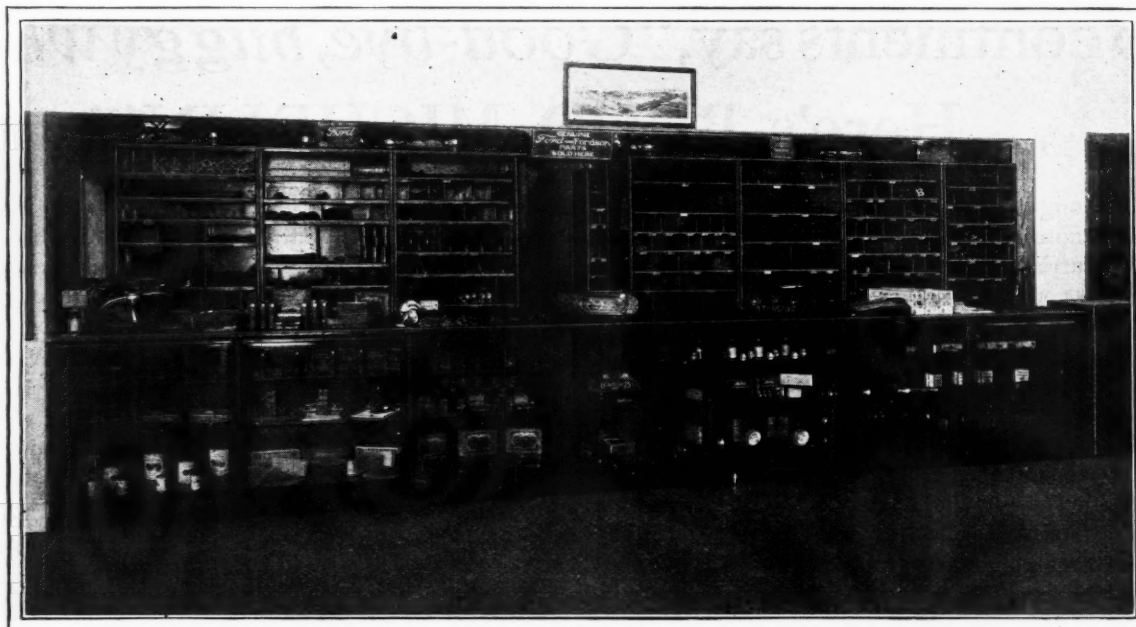
—cleanliness. No spokes to collect dirt. A more enduring finish than wood will take

—everlasting strength, promoting safety.

Triumphant beauty!

LYON AUTO PARTS CONTROL

Steel Storage Equipment for Automotive Parts



A Business-Like Place of Business

Such a business-like looking service station as this cannot help attract customers. This interior of Homeier-Whorley Motor Co., Akron, Ohio, looks as efficient as a big motor plant itself.

And it is, for the work it has been installed to do.

Behind the glass fronts of the Lyon Steel Counters, specialties make an attractive display, always kept clean by the sliding dustproof steel doors in the rear.

Over the counters, goods are handled pleasingly because the rigid counters never sway and creak, because the heavy linoleum tops are silent and keep their good appearance despite hard use.

Back of the counters is an installa-

tion of Lyon Auto Parts Control Units with proper accommodations for every part of the cars you service. An Index Board is furnished that gives at a glance the part, its number, price and exact location. Such an installation makes it easy not only to serve customers, but to keep a line on your stock and to re-order as needed.

Lyon Auto Parts Control Systems never wear out, never become obsolete, never become inadequate, because they can be re-arranged or added to as desired.

Is your equipment all that you would like it to be? Just write us the names of the cars you service and the amount of stock you carry and let us give you full information on the equipment we recommend.



For Tool Storage

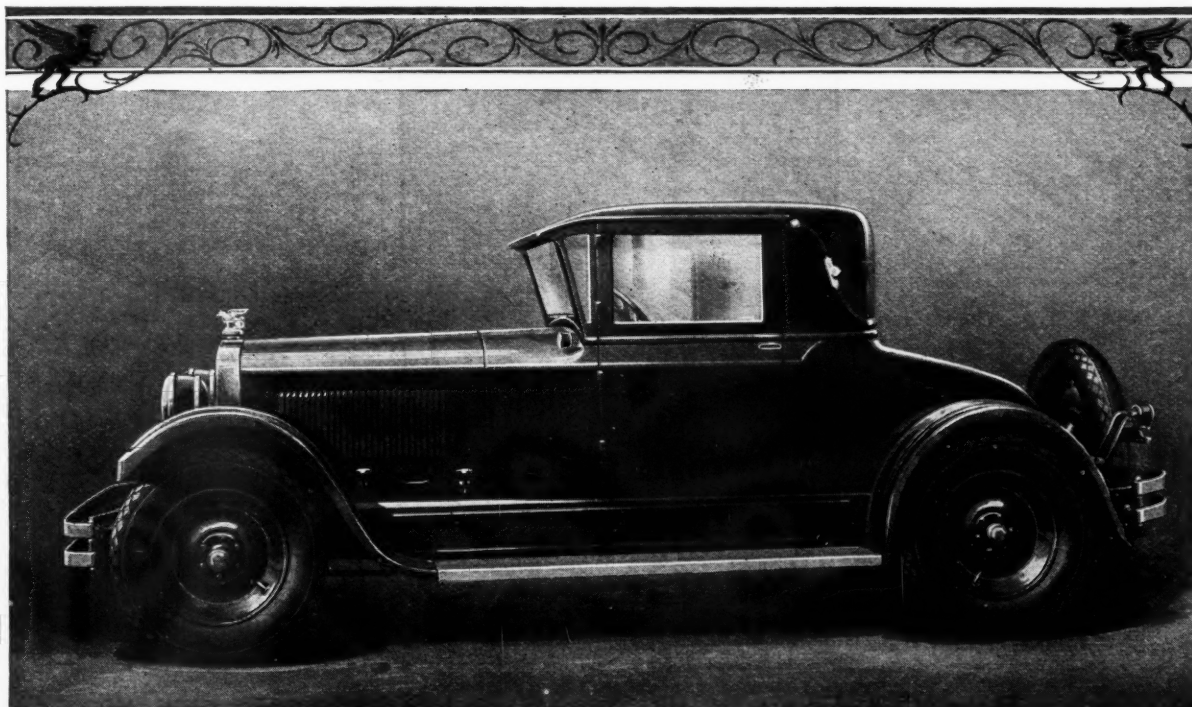
This Lyon Automotive Tool Crib was designed specially for garage and repair shop use — based on a thorough study of repair shop needs. Its different shaped and sized compartments provide maximum storage facilities with minimum space. One tool crib usually is sufficient for the smaller shop. Sizes and specifications are the same as Lyon Auto Parts Control Sections and Universal Units, so it can be used with other Lyon Equipment. Write for full details.



for Every Storage Need

Lyon Metallic Manufacturing Company
Aurora — Illinois

Lyon Auto Parts Control Systems are sold by leading Automotive jobbers



The Eight-in-Line Foursome Cabriolet

Any Gardner Eight-in-line Can Equal This Feat

On March 12, 1925, a stock Gardner *Eight-in-line* Brougham made the slowest 24-hour, high-gear run on record—19 times up and down Lookout Mountain, near Denver, at an average speed of but 7½ miles an hour!

Without once exceeding a speed of 10 miles an hour on the upward climb! Without adding a single drop of water or oil throughout the entire trip! Covering the full 224 miles on 18½ gallons of gasoline—an average of better than 17½ miles to the gallon!

That's performance with a real kick in it! And any Gardner dealer can take any stock Gardner *Eight-in-line* off his show-room floor and equal it! Which is one reason Gardner dealers find the Gardner *Eight-in-line* such an easy car to sell. We'll be glad to tell you the others if you're interested.

Write for the whole Gardner story—and details of our Net Profit on Every Sale Policy. Remember, it's not how many cars you sell, but how much you make on each sale that counts!

THE GARDNER MOTOR COMPANY, INC., ST. LOUIS, U. S. A.

GARDNER

GARDNER ASSURES YOU A NET PROFIT ON EVERY SALE





The immediate acceptance of the Walker Lift-A-Car by service stations, at home and abroad, is proof that it has met and solved the new lifting problems created by the advent of the balloon tire, the low slung axle and the bumper equipped car. With its low initial lift, its high raise and the long handle with short stroke, it combines more features than have ever been found in one lifting tool. To those garages who are still without a Lift-A-Car I will stake my reputation as a jack manufacturer, that once having one you will never be without it.

Willard Walker

President.



Walker Manufacturing Co.
Racine, Wisconsin

Rickenbacker

A • CAR • WORTHY • OF • ITS • NAME

Here's the Latest Coach-Brougham

You recall, of course, that Rickenbacker first developed this type and introduced to the industry the 4-door Coach-Brougham.

This model was an instantaneous success.

Buyers acclaimed it enthusiastically.

Demand has been overwhelming — far beyond factory capacity.

All Rickenbacker plants have been running extra forces and over-time, trying to catch up with orders.

And now—a new refined model—perfected at every point—is announced.

Rickenbacker always has led and is determined to retain leadership.

Cannot afford to let any other

offer as fine a car or as great value for the price.

Mounted on that same wonderful Rickenbacker Six Chassis with which "Cannon Ball" Baker has smashed so many cross-country speed and mountain records;—

Dressed in this natty new body, it is just as snappy and distinctive in looks, as it is in action.

And "Cannon Ball", who has driven many great cars, says this Rickenbacker "Is a performing fool".

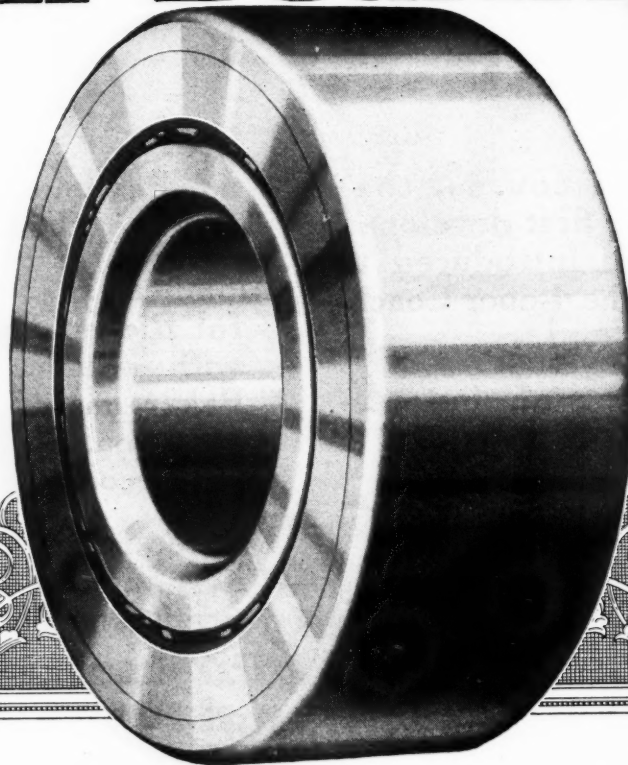
At its price—\$1,595 f.o.b. Factory—this Coach-Brougham is just as great a bargain as it is in performance, in beauty and in luxurious riding qualities.

Drive this Rickenbacker Six yourself—it will be a revelation to you.

Rickenbacker Motor Company
Detroit, Michigan



New Departure Ball Bearings



Triple Function, for Special Duty— the New Departure Double Row Type

This distinctive type is superior to and offers important advantages over other forms of bearings. Its two rows of balls carry radial as well as thrust loads from either direction, affording the following special advantages on the bevel pinion and other positions in the automobile requiring a bearing of unusual ability:

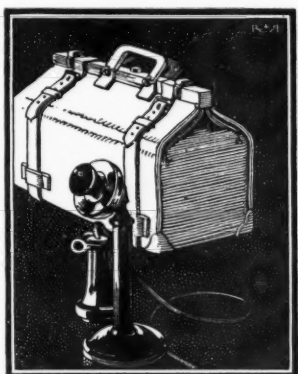
—Does the work of two or more bearings, sustaining loads from all directions. Its mounting is simple, compact and relatively inexpensive.

—No adjustment necessary or possible; a valuable asset to the owner who must have uninterrupted service in his car.

—Minimum end play; an imperative need on the bevel pinion, where the slightest bearing wear will allow end play to increase with detrimental results.

THE NEW DEPARTURE MANUFACTURING COMPANY,
Detroit Bristol, Connecticut Chicago

95% of sales made by TELEPHONE



DAILY TOLL AND LONG DISTANCE telephone calls into three states sell \$2,850,000 worth of products annually for a well-known oil company of Pennsylvania. Representatives visit the customers at intervals, but the telephone brings in the daily flood of orders. Of the firm's total annual business, 95% is solicited and sold by telephone. And while telephone sales are pushed

in New York, Pennsylvania and Ohio, long distance calls to Texas and Oklahoma points keep the house in touch with market conditions.

THE growing use of the long distance telephone in business is one of the outstanding business economies of the last decade. Thousands of concerns in hundreds of kinds of endeavor are now using telephone calls to develop prospects, serve present customers, sell goods, collect money and in other ways to cut expense. A small telephone bill is an almost sure sign of neglected business opportunities.

What city or state should you call now? Long distance communication has been built up and extended so gradually that some do not realize its magnitude and its full value. Long lines connect all

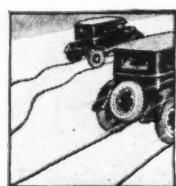
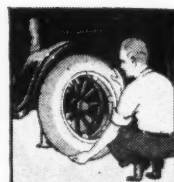
exchanges so that the 16,000,000 Bell telephones form one universal system, leading from your desk to practically every other in the United States and Canada.

The Commercial Department of the local Bell company, upon call, will gladly recommend new telephone uses for your business. In the meantime, let the telephone do the same things for you across country that it now does in the next block or on the other side of town. The telephone reaches everywhere. It will connect you, now, with the man or concern you want—whether hundreds or thousands of miles away. . . . *Number, please?*

BELL LONG DISTANCE SERVICE

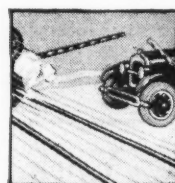


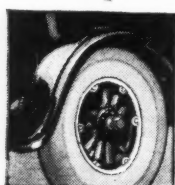
When you change tires
Hayes Rims *save time.*



Hayes Rims keep tires in
perfect alignment, less-
en tire wear and *save money.*

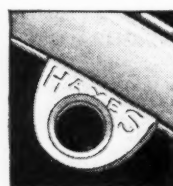
When terrific strain comes
Hayes Wheels are made to
stand the test and *save lives.*



Hayes Wheels are in use on cars
 of all classes from America's
lowest to highest priced &
On any motor car Hayes Wheels
signify that the manufacturer has
equipped it with the latest devel-
opments in wheels and rims.

HAYES WHEEL COMPANY, *Manufacturers*

Factories: Jackson, Albion, Flint, St. Johns, Michigan; Anderson, Indiana;
Nashville, Tennessee. Canadian Plants: Chatham and Merriton, Ontario



Jackson, Michigan

Export Office:
30 Water Street, New York City

HAYES WHEELS

WITH ATTACHED LUG RIMS ~ STANDARDIZED IN WOOD, WIRE AND DISC

G-H Replacement Parts

CLUTCH PLATES



Best Quality Steel—Ground to Accurate Fit.

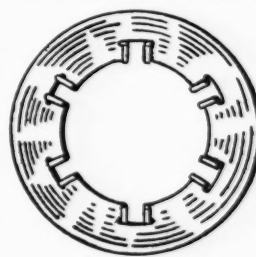
FOR BUICK CLUTCH—Ground Driven Plates and double and single faced Driving Plates. Also unfaced Driving Plates and Light Brown Woven Facings for attachment.

FOR DODGE CLUTCH—Ground Driven Plates and Driving Plates double-faced with moulded facings. Also unfaced Driving Plates and separate moulded facings.

FOR REO CLUTCH—Ground Driven Plates. Driving Plates double-faced and plates and facings separate.

FOR BROWN-LIPE CLUTCHES—Driven Plates with ground faces. Driving Plates assembled with two facings, gear cut teeth. Driving Plates without facings.

FOR FULLER CLUTCHES—Ground Driven Plates. Driving Plates, double-faced or without facings.



Buick—Dodge—Reo—Fuller—Brown-Lipe

A Complete Line of Warp-Proof Valves



A stem of S.A.E. 1020 Cold Drawn steel ground to $\frac{1}{2}$ of $\frac{1}{1000}$ " welded to a head of exceptionally close grained gray iron especially heat treated, polished all over, with ground seat.

Sizes and oversizes in stock for all models of all Car, Truck, Tractor, Power, and Light Plant, and Marine Engines.

G-H  VALVES
for Replacement

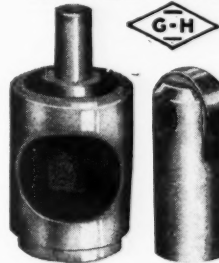
Valve Cages, Lifters, Assemblies, etc.

G-H Lists over one hundred parts in daily demand for replacement

VALVE PARTS for Buick, Cadillac, Chandler, Chrysler, Cleveland, Continental Engine, Essex, Hudson, Haynes, Oakland, Oldsmobile and Studebaker.

VALVE LIFTERS for A. C. Mack, Pierce-Arrow and Packard Trucks.

UNIVERSAL JOINT PARTS for Chandler, Oldsmobile, Oakland, Cleveland, Buick Brake Rods, Strut Rods, and Miscellaneous Parts.



It will save you a lot of trouble to order all these parts from a single reliable source. The G-H Brand insures their quality and accuracy.

**Buick, Cadillac, Chandler and
Other Popular Cars and Trucks**

Manufactured by



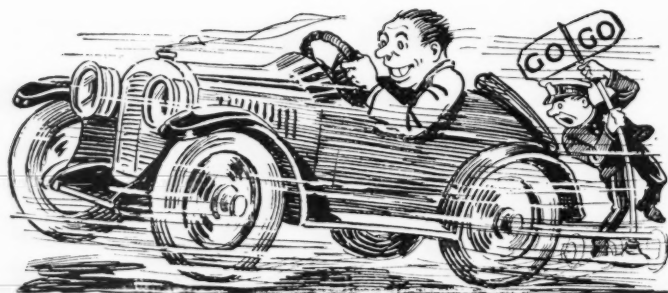
G-H Manufacturing Company

8 E. Mt. Royal Ave.



Baltimore, Md.





Can You Say This About Your Car?

It gets away with a rush that sets you back in your seat.

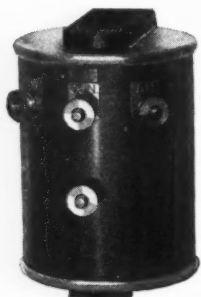
It starts the first time over, every time—cold weather or hot.

The engine never misses—not at three miles nor at sixty—and it does both in high.

It smiles at hills and heavy going, and responds to every touch of the throttle no matter how hard the pull.

And it shows its heels to all in its class and lots of others too.

Primax Transformer Ignition does this for any car. Owners change to this new and different spark because it brings out the best their engines have to give in power, speed, pickup and starting.



Service stations, garages, dealers and repair shops sell Primax Ignition because the one model makes a perfect replacement for any and all spark coils—there's no big stock to carry. And because Primax is unconditionally guaranteed to satisfy for the life of the car it's put on.

If you can sell proven performance at a fair price and a real profit for yourself, mail the coupon today.

Thordarson PRIMAX Ignition Transformer

Manufactured By

Thordarson Electric Mfg. Co.

CHICAGO, ILL., U. S. A.

MAIL COUPON TO-DAY

Thordarson Electric Mfg. Co.,
500 W. Huron St., Chicago, Ill.

Send complete sales information on Primax Ignition Transformers, including net prices, samples of advertising literature and list of selling features.

Name

AddressA7

And Then You Come to the Ruts and Bumps

Out in the country you drive with comfort and safety for miles and miles on Concrete Boulevards.

Then you come to the city limits—and from the true, even surface of the Concrete Highway you jolt on streets full of bumps and ruts.

Such streets greatly increase your gasoline and repair bills, and play havoc with your tires. And their high maintenance soon makes their cost much greater than concrete pavement.

Your city officials are ready to give you the kind of streets you want. But they know that such public works as paving programs require time for planning and financing.

Tell your local authorities you are willing to back them *now* in building more Concrete Streets

PORTLAND CEMENT ASSOCIATION

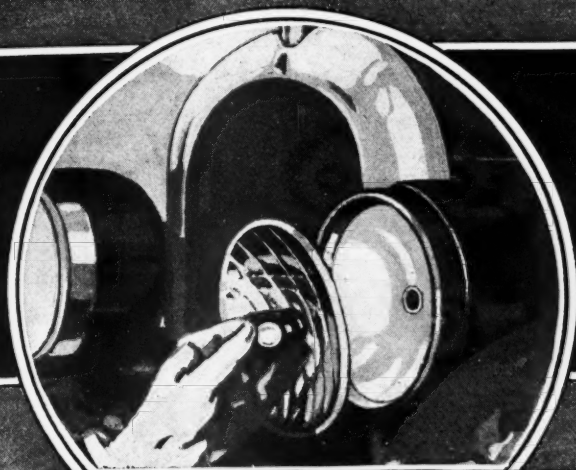
*A National Organization to Improve and Extend
the Uses of Concrete*

Atlanta
Birmingham
Boston
Charlotte, N. C.
Chicago
Columbus
Dallas
Denver

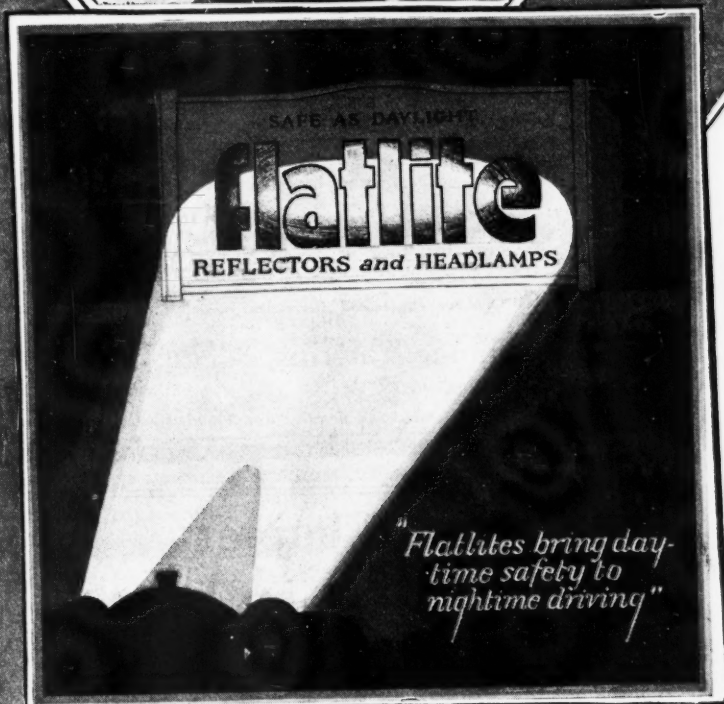
Des Moines
Detroit
Indianapolis
Jacksonville
Kansas City
Los Angeles
Milwaukee

Minneapolis
Nashville
New Orleans
New York
Oklahoma City
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Philadelphia

Pittsburgh
Portland, Ore.
Salt Lake City
San Francisco
Seattle
St. Louis
Vancouver, B. C.
Washington, D. C.



flatlite—the “safe as daylight” method of controlling headlamp light rays.



Flatlite is a phenomenal success because it fills a real need—a need that has existed since the automobile was first used at night. Never before has a light, powerful enough to light a road as it should be lighted to be safe, been lawful. flatlite removed the glare danger and unbottled all the light at the same time.

flatlite sales possibility in any community is limited only by the number of cars and the dealer's efforts. Any distributor or dealer who will get behind this accessory—and it is very easy to sell—will reap a rich reward.

Write us for particulars

THE AMERICAN FLATLITE CO.

Department A

Reading Road at Dandridge Street
Cincinnati, Ohio

flatlite reflectors are sold separately for installation in any headlamp. flatlite headlamps complete are available to fit all cars. Both are wonderful sellers in a buying market. To show flatlite advantages—and it is easy to do—is to sell either the reflectors or the complete headlamp.



Flatlite
REFLECTORS
for replacement in any headlamp
HEADLAMPS
to fit all cars

The L & S

VIBRATION ELIMINATOR

(PAT. PENDING)

for OVERLAND FOURS is a perfect Motor Suspension which requires neither adjustment nor lubrication.

It does just what its name implies; it permanently prevents all vibration in the car—and at a price within the reach of every OVERLAND owner.

Manufactured by

LA MERE & SARDESON Inc.

1900 Central Ave.

MINNEAPOLIS, MINN.

N.B. One local OVERLAND dealer sold and installed this accessory in 67 OVERLAND FOURS in 30 days; name given upon request.



TENAX

Compressed Asbestos

Is Great for Hot Spot Packing

In fact there are 25 or more places on every car where TENAX Compressed Asbestos Packing or TANPAC Fibre Sheet Packing can be used to best advantage.

TENAX and TANPAC are both available through hundreds of leading jobbers, who have stocked them for over 20 years.

Be sure to specify these two packings by name when you order: TENAX where heat occurs—TANPAC for oil, grease, water, gasoline, etc., or places where there is no heat. The service they give more than justifies your judgment in their selection.

Write for illustrated literature covering the entire
ADVANCE line

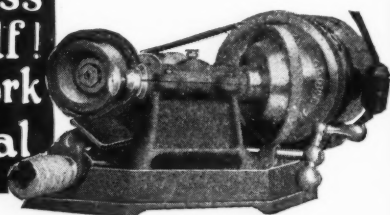
Advance Packing & Supply Co.

808 Washington Blvd.

Chicago, Illinois

Allied Industries, Inc., Pacific Coast Distributors
Los Angeles, San Francisco, Portland, Seattle

**Costs Less
than Half!
Better Work
Free Trial**



**CROWE
CUP WHEEL
VALVE
REFACER**

Price Only
\$85.00

Complete
EASY TERMS

THE astonishingly low price of this machine puts it within the reach of every auto repair shop. The big shop can give better service with the Crowe. And with this machine the small shop is fully equipped to give the same high grade valve service as the big shop.

But aside from its money-saving price, the Crowe has many special features that make it preferable.

We would like an opportunity to give you the complete details of this improved valve face grinder, our easy extended-payment terms, and our Free Trial Offer. Will you write us today for this information?

**LISLE MANUFACTURING COMPANY
CLARINDA, IOWA**

A New Chapter Every Thursday

Each issue of **MOTOR AGE** is a new chapter, continuing the story of the development of the industry.

And for those who apply the new ideas it gives them, it also continues the story of the development of their individual success.

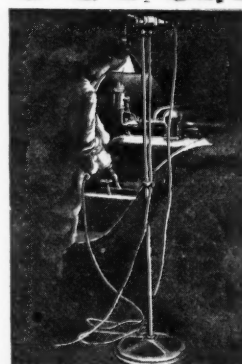
Read **MOTOR AGE** every week.

MOTOR AGE

5 So. Wabash Ave.

Chicago, Ill.

Get a Manley Garage Light

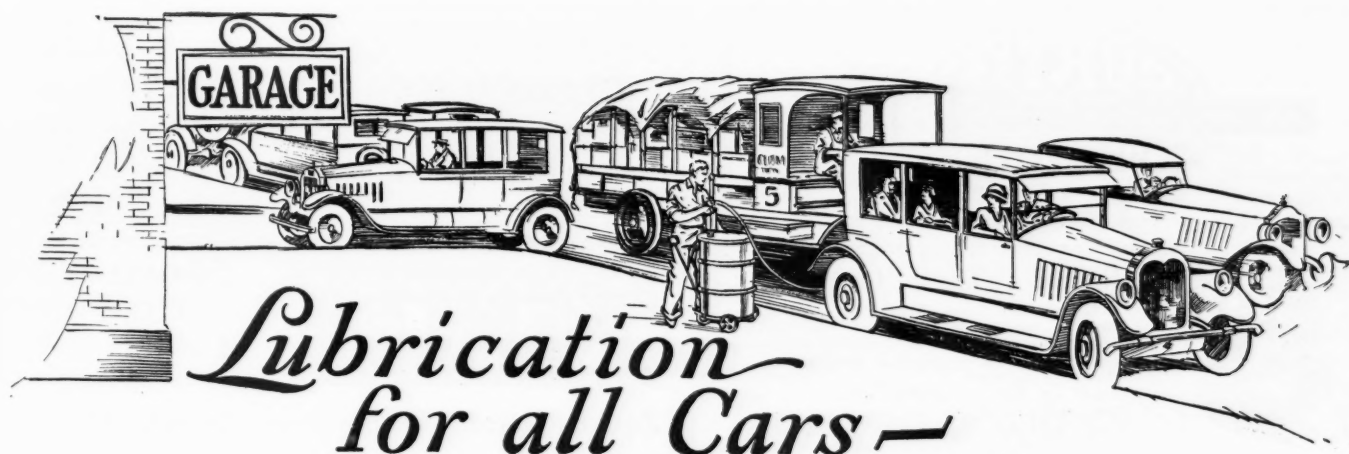


Puts a flood of light just where it's needed—inside the closed car, under the car or hood—wherever work must be done. Invaluable on the washstand. List price complete with extra socket for drill or trouble light, \$17.50.

Send for illustrated literature.

**MANLEY MFG. CO.
YORK, PA.**

Good work requires good light



Lubrication for all Cars —

Dixon's 677 is recommended for the gear-boxes of all cars and trucks.

It flows freely over gears in operation yet does not squeeze out under load.

It is not affected by heat or cold and pro-

vides a film of lubricant that lowers wear to a minimum.

Dixon's 677 assures your customers of freedom from lubrication worries.

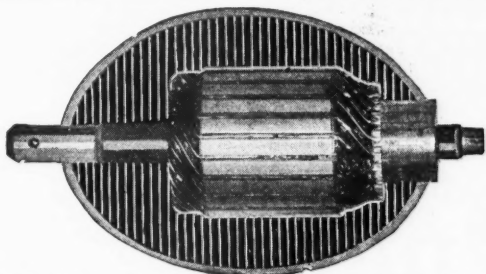
Write for Booklet 82-G and prices.

JOSEPH DIXON CRUCIBLE CO.

Jersey City, New Jersey

Established 1827

DIXON'S 677



"Mister, It's a Fredericks Job!"

Insulated and Guaranteed for 90 days—a year from now you won't remember there's an armature in your car. Then you'll be sold as solidly as I'm sold on Fredericks Rewinds." Get our interesting booklet and price list—sent gladly if you'll write for it.

FORD Generator Armatures Rewound.....	\$1.50
FORD Starter Armatures Rewound.....	1.50
ALL OTHER TYPES TWO-UNIT Generator Armatures Rewound.....	3.25
ALL OTHER TYPES TWO-UNIT Starter Armatures Rewound.....	3.25
ALL TYPES MOTOR GENERATOR Armatures Rewound.....	8.00

GUARANTEED to give the same satisfaction as new armatures.

The H. M. FREDERICKS CO., Lock Haven, Pa.

FREDERICKS
Rewinding Service

The Federal-Mogul Complete Line

Bronze Back Babbitt
Lined Bearings

Die Cast Babbitt
Bearings and Bushings

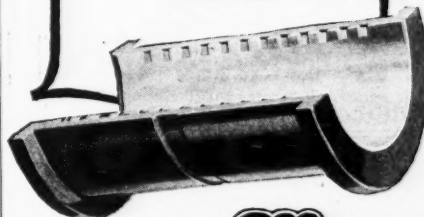
Bronze Bushings

Bronze Washers

Bronze Castings

Babbitt Metals

Bronze Cored and
Solid Bars



Federal-Mogul
FEDERAL

FEDERAL-MOGUL CORPORATION,
DETROIT, MICH.


A consolidation of the Muzzy-Lyon Co. and Federal Bearing & Bushing Corp.

Standard
equipment
with over
150
Automotive
Manufacturers




CURTIS
AIR COMPRESSORS—HOISTS—TROLLEYS—CRANES
ST. LOUIS

Curtis Pneumatic Machinery Co.
1527 Kienlen Ave.
St. Louis, Mo.



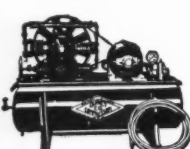
Rubber Tubing for the Trade
ECLA radiator hose—All-Rubber or Cloth-Inserted, tire pump hose and windshield wiper tubing, all in standard lengths, will show you better profits and your customers better service.
Insist on ECLA Brands when buying these items.
THE ECLAT RUBBER COMPANY
Cuyahoga Falls, Ohio

Kawneer
SOLID COPPER
STORE FRONTS
Write for Special Book Garage Front
THE KAWNEER CO., 2224 Front St., Niles, Mich.



Ernie Hall says:
"You can't hold compression or stop oil pumping by putting round rings in an oval cylinder. The Hall is the only Hone guaranteed to make an oval hole round as well as parallel."
THE HALL MFG. COMPANY
434 Dorr Street
Toledo, Ohio

KISSEL
CUSTOM BUILT
The Kissel Dealer does not meet competition. He makes others meet it.
KISSEL MOTOR CAR CO., Hartford, Wis.



Model G-16
Quincy Silent Air Master
Manufactured by
Quincy Compressor Co.
Name Formerly Wall Pump & Compressor Co.
217 Maine Street, Quincy, Ill., U. S. A.

Transmissions and Clutches **FOR BROWN-LIFE GEAR CO.** Trucks, Busses Passenger Cars
QUICK SERVICE ON COMPLETE UNITS OR PARTS
BROWN-LIFE GEAR CO.
SYRACUSE, N. Y.



Thirty-seven
BRANCHES
AHLBERG BEARING COMPANY
321 EAST TWENTY NINTH STREET, CHICAGO ILLINOIS

Here is a new necessity and convenience for any make of closed car and so low priced every owner is a prospect. This **\$1.50**
CLOSED CAR VENTILATOR
Adapted to any make of closed car. Prevents moist windows, gases, and keeps interior always well ventilated winter and summer. Write today.
Lewis Manufacturing Company, Inc.
219 Orchard St. Sharon, Pa.

ZENITH
CARBURETOR
More Power Less Fuel
Zenith - Detroit Corporation, Detroit, Mich.

\$5.50 with belt

The Big Seller in the Ford Pump field—at a new low price. Get our dealer plan.
The Turner Mfg. Co., 31st and Roanoke Rd.
Kansas City, Mo.
U-Need-It ROTARY PUMP for FORDS

Hycoc
Brake Lining
FOLDED AND STITCHED
HYDRAULIC COMPRESSED
Millions of feet annually installed as factory equipment
THE MANHATTAN RUBBER MFG. CO.
PASSAIC, N. J.

Packard Cable
The Packard Electric Co.
Warren, Ohio


 **UNITED STATES**
Portable Electric
DRILLS
Built by the oldest maker of Portable Electric Drills in the World.
Ask for THE UNITED STATES ELECTRICAL TOOL CO.
Catalog 185 Cincinnati, Ohio, U. S. A.

SMOKELESS CARS DRY PLUGS
Guaranteed with **MEGSON RINGS**
4 years' tested service
Your jobber—at once or write direct
Megson Piston Ring Co.
807-11 Flatbush Ave., Brooklyn, N. Y.

The Original
Bosch
ORIGINAL BOSCH units bear the full name, Robert Bosch, and the trade mark shown at left. These are the identifications of Bosch quality—famous since 1887.
Franchise details for selling ORIGINAL BOSCH Automotive Equipment will be sent to any Distributor, Dealer or Service Station on request.
ROBERT BOSCH MAGNETO CO., Inc.
109 West 64th Street New York, N. Y.

They have
full spiral
flutes that
shear metal
cleanly.

(Pat. Applied for)



SMOOTH-KUT (Trade name Registered) Expansion Reamers

Own one of these more efficient Piston Pin Sets. Insist on the name SMOOTH-KUT, beware of inferior imitations. Order through your jobber. Also sold singly.

Millersburg Reamer & Tool Co., Millersburg, Pa.

There Simply Isn't Any Better Flux Made Than Rubyfluid!



A complete substitute for dangerous acids, Zinc Chloride, Sal ammoniac and other mixtures commonly used as a flux. Ruby Fluid is quick acting, anti-rusting and is always ready for instant use. Ruby users include the foremost industries of the country. Send for generous Free Sample

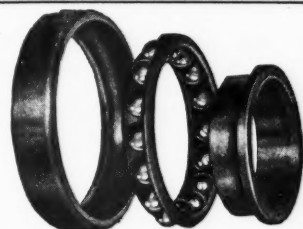
Rubyfluid

COMBINATION
SOLDERING AND TINNING FLUX

THE RUBY CHEMICAL CO.

68-70 McDowell Street

Columbus, Ohio



The Bearings Company of America—Manufacturers of Angular Contact Radial Bearings, Angular Contact Thrust Bearings, Thrust Ball Bearings. Bearings made to your B/P's and requirements. Your present Bearing sizes duplicated.

The Bearings Company of America

Lancaster, Penna.

Detroit, Mich., Office,
1012 Ford Bldg.

Cushers

CHICAGO ROLLER SKATE CO.

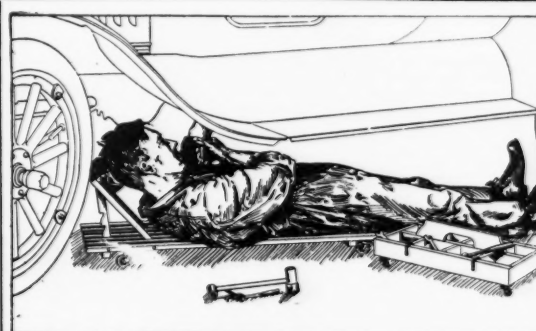
Manufacturers of Screw Machine and Automotive Products
Cushers Sales Dep't, Fulton-Dean Co.
332 South Michigan Avenue, Chicago

Pedrick

HEAT-SHAPED
PISTON RINGS

Heat shaped to insure perfect roundness, sold at almost the price of a snap ring.

Wilkening Mfg. Company
15th and Mt. Vernon St., Philadelphia, Pa.



Koch Kreepers No. 3

Price,
East of
Rockies,
\$4.00;
West of
Rockies,
\$4.50;
Postage
Prepaid.

Patent adjustable padded headrest, easily operated. Long comfortable curved bed, finished in waterproof varnish. Equalled by none. If your jobber hasn't them, write us direct.

THE FORT RECOVERY STIRRUP CO.

Fort Recovery, Ohio, U. S. A.



CANTON

Portable Crane and Hoist

The purpose of the Canton Portable Crane and Hoist is to make more money for service and repairshop men.

Write for a copy of the illustrated booklet M A describing the outfit. It will show you the way to better profits.

The Canton Foundry & Machine Co.

Canton, Ohio

New York Office—303 East 15th Street

Simplicity

For Shop Profits

More than 1000 repair shops have found that the installation of SIMPLICITY Precision Machinery and Tools means profits. Write for literature, low prices and terms on Simplicity Reborer and Grinder, Valve Grinder, Crank Pin Tool, Re-Seating Cutters and Pilots.

Ask Us to Give You a Free Demonstration
in Your Own Shop on One of Your Own Jobs

SIMPLICITY MANUFACTURING CO.

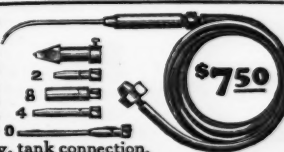
SPRING STREET

PORT WASHINGTON, WIS.

TURN WASTED TIME INTO MONEY!

Every Purchaser Finds Numerous Uses for the
Torit Acetylene Torch No. 13

Uses Acetylene Only. No oxygen or air pressure required; tips suck in air. Simply connect to Presto auto tank, light gas, and the outfit is put to work. Beats anything you ever tried for soldering, heating, melting or light brazing. Consists of 4 tips for different kinds of work, soldering copper, 5 ft. tubing, tank connection.



ST. PAUL WELDING & MFG. CO. 169 Third St., St. Paul, Minn.

STOLEN

Millions of dollars worth of cars each year. This new switch locking device fits Ford, Star, Gray, Overland, Maxwell or any car with Ford type switch. Ordinary padlock completes it. Retail for \$1.00.

"As good as the best, cheaper than the rest"

GET THIS EXTRA PROFIT

Jobbers and Dealers: Write for prices and information.

IDEAL AUTO LOCK MFG. CO.
325 Felt Bldg., Salt Lake City, Utah

Protected

Bumpers, tempered and nickel-plated by our exclusive processes. Strong brackets, fit all cars and bumpers.

GEMCO BUMPERS

GEMCO MFG. CO.
760 So. Pierce St.
Milwaukee, Wis.

Write for catalog

PORE BLOWN BATTERY PLATES

They help you build better batteries because our special process gives them greater capacity—a strong, unfailing current over a longer period of time. The grids used in Pore-Blown Plates are reinforced at the bottom, where the strain is great. All materials used in the paste are pulverized—not just mixed. Send for our complete catalogue on plates and all battery parts.

General Storage Battery Co.
2005 Locust St. St. Louis

TAKE THE END-PLAY OUT!

—WITHOUT PULLING THE MOTOR

THE C. A. ADJUSTABLE CENTER BEARING CAP corrects Ford crankshaft end play and sets magneto for highest efficiency without removing the motor. Easily and quickly installed. Guaranteed for one year. List price \$3.75. Ask your jobber or dealer or write us direct.

ADJUSTABLE BEARING CO., Inc.
Dept. M. Brazil, Indiana

Pat'd 7-22-'22

BIG MONEY IN THIS SERVICE

Dealers and shops make big money through the control of a franchise which entitles them to the exclusive use of the patented "KLEAN RITE" system of washing and polishing automobiles.

This system has turned a job into an impressive, highly profitable business.

Write for full particulars

Klean-Rite Auto Laundry Company
1710 East 75th St. Chicago, Ill.

WEL-EVER

"OIL CONTROL" PISTON RINGS

The Motor Necessity That Has Made Good Backed by Seven Years' Satisfactory Service

THE WEL-EVER PISTON RING CO., TOLEDO, OHIO
Sold most everywhere. If your dealer cannot supply you write us.

The Adams Adjustable Foot Rest

Adjusts comfortably and easily to most convenient height for any driver's leg. Foot lies in normal restful, uncramped, safe position. Big, fast seller. Senior, \$3.50, Junior, \$1.25. Ask your jobber.

Adams Mfg. Co.
Galesburg, Ill.

Thermoid
Hydraulic Compressed
Brake Lining

FROM THICK TO THIN
DOWN TO THE
LAST PLY
IT HOLDS

MOTO GLO
"Sees at Night"

Moto Glo can be attached to any size Motor Meter and "Sees at night." Supplied with red, green and amber eyes. The eyes and side windows light up. Complete with socket, bulb and cable. Send for samples and catalogue showing 50 new members.

IRVING FLORMAN COMPANY
153 Lafayette Street
New York, N. Y.

A Complete Line of Overland Fours
A Complete Line of Overland Sixes
Willys-Knight Fours—Willys-Knight Sixes

ALL UNDER ONE FRANCHISE

Stops Pump Shaft Leaks Immediately and Permanently

Conneaut Plastic Metallic Packing molds in fingers. Fits in stuffing box. Forms a practically frictionless bearing. "Take it up" like a bearing. In one and five pound cans. Remarkable results. Your jobber has it or write direct.

Conneaut Packing Co.,
Conneaut, Ohio

Prevent This!

FISK TIRES

There's a Fisk Tire of extra value in every size, for car, truck or speed wagon

RAMCO
Cushion
INNER RINGS

fit behind piston rings and keep them in perfect contact with the cylinder walls at any motor speed or temperature.

RAMSEY ACCESSORIES MFG. CORP., ST. LOUIS, MO.

Rie Nie Bearing Blue

A marking compound used for determining high spots on bearing surfaces. Covers the surface completely, yet leaves a coat not more than one-thousandth of an inch in thickness.

One of the Rie Nie Line

DURKEE-ATWOOD CO.
MINNEAPOLIS, U.S.A.

BRUNNER
AIR COMPRESSORS
FREE

Write for the Book **"AIR PROFITS"** describing many new uses for compressed air. Shows how to make an air compressor earn greater profits.

BRUNNER MFG. CO.
UTICA NEW YORK

The Cooper
CUT-OUT
ENGINE TESTER AND
CARBON OUTLET VALVE

Dependable. Certain. Easily installed. A big seller all the year round.

Made in many sizes to meet any and all requirements in garage, tire repair shop and filling station. Six types: Two Stage, Single Stage, Air Cooled, Water

Cooled, Stationary, Portable. Our low prices enable you to get a Compressor for a small investment. Send for literature.

The United States Air Compressor Co.

5304 Harvard Ave.

Cleveland, Ohio



Armatures Rewound

Prompt Service

Low Prices. Ford Generator or Starter rewound, \$1.60.

Warren J. Bauman Co.
Lock Haven, Pa.



Work Guaranteed

The SKINNER OIL RECTIFIER

More than a new accessory, a necessity. Makes one filling of oil good for 2500 miles or more. Prevents crankcase dilution. Prevents oil pumping. Improves lubrication, thus saving fuel. Profit by the interest this device is creating among car owners. Write for complete details.

THE MASTERCRAFTS CORP.
Brattleboro Vermont



QUALITY—PROFIT—TURNOVER

American Hammered Piston Rings

American Hammered Piston Ring Company
Baltimore, Maryland

PROTECTOMOTOR 99 ⁹/₁₀

REG. U.S. PAT. OFF. Perfect Positive Protection

Filters all dust, sand and grit out of air supply to carburetor and motor. Write us for facts.

STAYNEW FILTER CORPORATION
Rochester, N. Y.

EFFICIENT

Have you seen the new Gilmer Fan Belt?

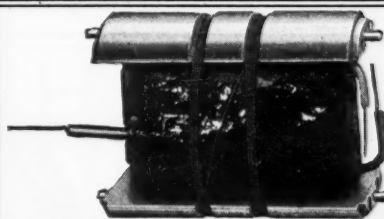
It's a V shaped belt, constructed of tough fabric and a new special rubber compound. Sizes for all popular cars using V or grooved pulleys. Write for prices and complete information.



L. H. Gilmer Co.
Philadelphia

"It's a Gilmer Product—you can depend on it."—Happy Van, the Gilmer man.

Gilmer



Magneto Winding Service

Finest quality Magneto Windings for all models. No better to be had. Send your old cores—We will ship re-wound core. Guaranteed. Exceptional prices. Write for full particulars.

Severson Magneto Engineering Co.
Toledo, Ohio

GATES VULCO

Fan Belts and Radiator Hose

Made By

The World's Largest Makers of Fan Belts

A Quick Seller and a Tremendous Market

FORD, CHEVROLET and OVERLAND owners buy this TASCOS Gauge on sight. It screws in place of the filler cap—saves "measuring" the gas—and it is guaranteed for the life of the car. They sell all the time.



THE AKRON-SELLE CO., Akron, O., U.S.A.

\$1.25
Retail

DILL INSTANT-ONS

Dust and Valve Cap
Off or On in 5 Seconds

The Dill Manufacturing Co.

Cleveland, O.

Cold-Drawn Sockets



ALLEN Wrench Sets

ALLEN PROCESS MAKING A SOCKET

The Allen Manufacturing Company, Hartford, Conn.

MONOGRAM ORIGINAL

SELF LOCKING RADIATOR CAP

THE KINGSLEY-MILLER CO.

(General Automotive Corporation, Chicago)
600 West Jackson Boulevard Chicago

CLASSIFIED ADVERTISING

PARTS

DOWNMETAL PISTONS

Lighter, stronger, and longer wearing than aluminum or iron. Can be fitted with bronze bushings in the wrist pin holes same as in iron pistons. Downmetal has no permanent growth. The expansion is little more than iron.

SEND FOR PARTICULARS

LAMBERT & MANN CO.
Cylinder and Crankshaft Grinding
215-21 N. Wood St. CHICAGO Phone West 4918

HOUSE OF A MILLION AUTO PARTS

The largest stock of new and used car and truck parts in the world. We have everything. Always mention model and serial number in order. Write us. All inquiries answered promptly.

DOUGLAS AUTO PARTS CO., INC.
2903-5-7-9 South State St., Chicago, Ill.

PARTS

AUTO PARTS

SAVES 50% to 75% ON ALL CARS

New and Used Gears—Springs and Axles—Cylinders—Motors—Rear Systems, etc. Wire or Write

INDIANA AUTO PARTS CO.
316-18 NO. ILLINOIS ST. INDIANAPOLIS, IND.
LARGEST CAR WRECKERS IN INDIANA

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Attorney-at-Law and Solicitor of Patents

C. L. PARKER

Formerly Member Examining Corps, United States Patent Office

American and foreign Patents secured. Searches made to determine patentability and validity. Patent suits conducted. Pamphlet of instruction sent upon request. McGill Building, WASHINGTON, D. C.

PATENTS & PATENT ATTORNEYS

PATENTS

Secured, Trade-Marks and Copyrights Registered. Prompt service. Highest references. Established 1864. Milo B. Stevens & Co. Registered Patent Attorneys. Offices: 639 F St., Washington, D. C. 10 Monadnock Block, Chicago, Ill.

BASIC Patent a necessity on every car. Chance for live manufacturer or sales force. Demonstration without obligation. H. Mayer, 638 Cass St., Chicago, Illinois.

BUSINESS OPPORTUNITIES

Good garage for sale located on Wisconsin Road 13 and near Road 73. Building and tools \$18,000.00. Reason for selling on account of health. A good location in Wisconsin. Address Box 6234, Motor Age, 5 S. Wabash Ave., Chicago, Ill.

FOR SALE—Garage, centrally located in growing town; also will transfer contract for most popular automobile agency to purchaser. Box 6237, Motor Age, 5 S. Wabash Ave., Chicago, Ill.

R. I. V.

Ball Bearings



QUALITY

The distributor who pins his faith to R. I. V. Quality finds his franchise more valuable every year.

We have a number of centers open in the Middle West and South for distributors of the better class—and a proposition for them that commands attention.

Your inquiry on your letterhead brings a quick, complete and courteous reply.



Broadway at 57th St.
Fisk Building, New York City

Branches: Detroit and San Francisco

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He treated 'em like step-children *but they kept on selling*



LIKE many other dealers, he kept Graton & Knight Fan Belts in the darkest bin. Never gave 'em a thought until a customer asked for one.

At inventory time he discovered an astonishing thing. These neglected belts were selling steadily and profitably.

Graton & Knight Fan Belts *must* sell. They are a most important replacement part. Given a chance, they show profits that are a big help in taking care of your general overhead.

Graton & Knight can help you sell more fan belts. Our handy display rack "asks 'em to buy." Our *quick turnover system* lets you keep a minimum stock. Carry endless belts for the popular cars and roll belting which can be cut to fit the others. Turn your stock oftener. Make more on your investment.

You can go the limit in recommending Graton & Knight Standardized Leather Fan Belts. Flat, "V" and Link "V" types. All made of leather, tanned to resist oil, dust, water and heat. Easy on bearings. Require little tension. Very little stretch. Don't need frequent adjustment. Give service that builds good-will for you.

Graton & Knight Belts are priced to bring you good profits. Backed by our interesting sales-plan, they will greatly increase your fan belt business. Send in the coupon for full details.

GRATON & KNIGHT

Standardized
LEATHER BELTING

MAIL ME TODAY

THE GRATON & KNIGHT MFG. CO., Worcester, Mass., U. S. A.
Send fan belt information: 101-G

Name.....
Company.....
Place.....

Prices, quality for quality, 5 to 10% lower than the field
Tanners—makers of belts, straps, packings, fan belts, lace leather, etc.

How do you cut cast iron?

The Branches You Located

EASTERN DEPARTMENT

Boston Massachusetts
 New Haven Connecticut
 Binghamton New York
 Long Island City New York
 New York City New York
 Newark New Jersey
 Philadelphia Pennsylvania
 Baltimore Maryland
 Charlotte North Carolina
 Atlanta Georgia
 Birmingham Alabama
 Pittsburgh Pennsylvania
 Buffalo New York

CENTRAL DEPARTMENT

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 Cleveland Ohio
 Cincinnati Ohio
 Parkersburg West Virginia
 Indianapolis Indiana
 St. Louis Missouri
 Memphis Tennessee
 New Orleans Louisiana
 Houston Texas
 Tulsa Oklahoma
 Kansas City Missouri
 Omaha Nebraska
 Milwaukee Wisconsin
 Minneapolis Minnesota
 Denver Colorado

WESTERN DEPARTMENT

San Francisco California
 Seattle Washington
 Portland Oregon
 Salt Lake City Utah
 Los Angeles California
 Phoenix Arizona

Oxy-acetylene cutting of steel and wrought iron has long been a widely accepted practice. The cutting is done by a process of rapid oxidation. It is a true chemical reaction. For years everyone assumed that cast iron, because of its high carbon content, could not be cut.

Oxweld engineers did not continue to accept this belief. They developed a practical method and cut cast iron. Moreover, they did this with unmodified Oxweld cutting equipment. Today it is accepted practice in Oxweld equipped plants.

If your cutting apparatus is Oxweld, you can cut cast iron. If your operators do not have knowledge of the method, any Oxweld representative will teach them.

OXWELD ACETYLENE COMPANY

Chicago
 3642 Jasper Place

Long Island City, N.Y.
 Thompson Ave. & Orton St.

San Francisco
 1050 Mission Street

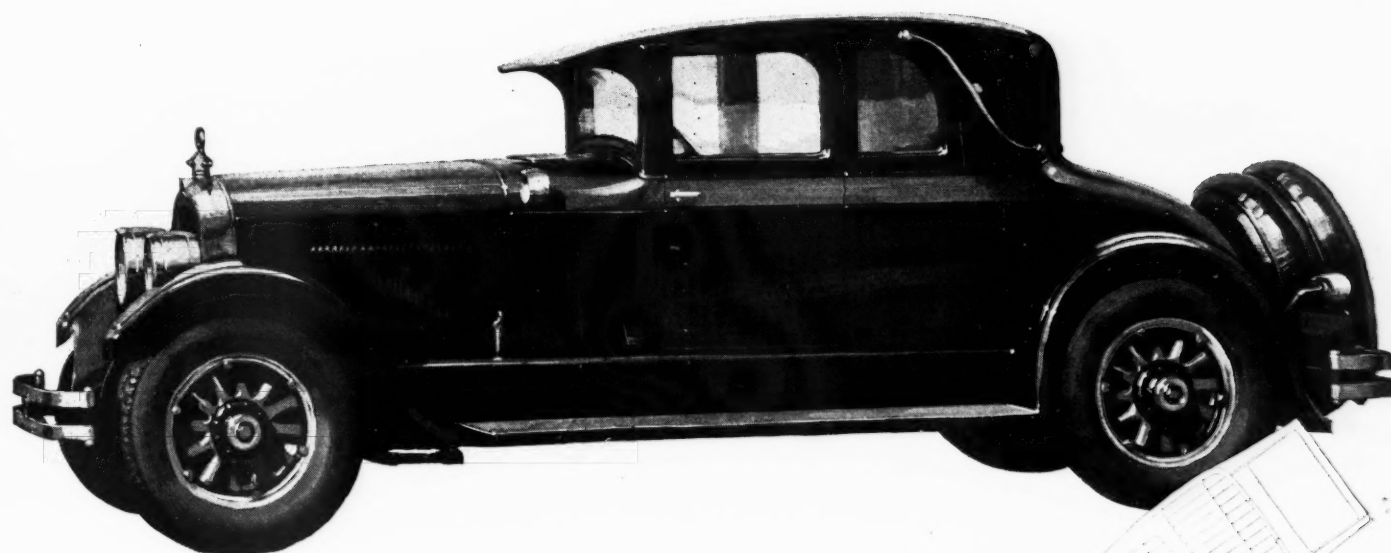
Oxweld

WELDING AND CUTTING APPARATUS

WORLD'S LARGEST MANUFACTURERS OF WELDING AND CUTTING EQUIPMENT

and again~

at practically open car price



The New Marmon

VICTORIA COUPE

Here is another addition to the popular, fast-moving line of New Marmon Standard Closed Cars at practically open car prices—the Victoria Coupe. In producing a four-passenger Victoria type of car to meet a recognized demand, Marmon waited until it could announce something absolutely new and different. It is another striking evidence of Marmon's policy of supplying the dealer with advanced, salable merchandise at an attractive price.

NORDYKE & MARMON COMPANY, Established 1851, Indianapolis, Indiana

The **NEW MARMON**

*"It's a Great
Automobile"*



What AC Means to the Dealer

AC Spark Plugs



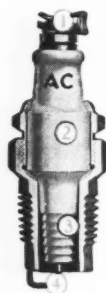
More than 80% of all the cars produced in this country, Fords excluded, are factory equipped with AC Spark Plugs. Among these cars are:

Apperson
Buick
Cadillac
Case
Chandler
Chevrolet
Chrysler
Cleveland
Davis

Dodge
Brothers
Durant
Essex
Flint
Hudson
Hupmobile
Kissel
Marion

Maxwell
Nash
Oakland
Oldsmobile
Paige
Star
Vellie
Westcott
Wills Sainte
Claire

AC 1075 for Fords



One glance tells the whole story — Why the AC 1075 is an especially good plug for Fords—Here are its features:

- 1 Spring Terminal Clip
- 2 Heavy Body Porcelain
- 3 High Temperature Fins—Patented Carbon-proof Porcelain
- 4 Heavy Electrode Forms Natural Oil Drain.

Dealers who carry a good stock of AC products can build a profitable business. The demand is assured because of their use as car equipment.

* * *

Backed by strong advertising.

* * *

They afford you the margin of profit you should get.

AC Spark Plug Company, FLINT, Michigan

Makers of AC Spark Plugs—AC Speedometers—AC Air Cleaners

AC-SPHINX
Birmingham
ENGLAND

AC-OLEO
Levallois-Perret
FRANCE

AC Speedometers



The Model for Fords

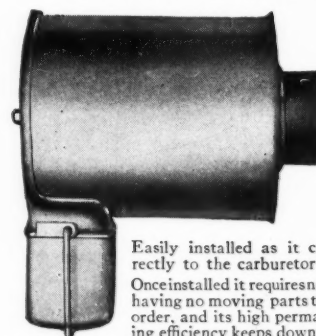
Miles per hour, miles per trip, total mileage—it tells them all.

Simple direct drive is a big improvement over previous types of drives as it does away with the swivel joint.

Complete with all attachments and once installed is a source of constant satisfaction. The cost is surprisingly low—\$15. (\$21.00 in Canada.)

That AC Speedometers can be depended upon for trouble-free operation, is evidenced by the fact that they are original equipment on such cars as Buick, Cadillac, Chevrolet, Chrysler, Gray, Maxwell, Oakland, Oldsmobile and GMC Trucks.

AC Air Cleaners



Easily installed as it connects directly to the carburetor.

Once installed it requires no attention, having no moving parts to get out of order, and its high permanent cleaning efficiency keeps down repair bills.

Comes complete with all attachments and is reasonably priced—\$5.00 to \$7.00 (\$7.00 to \$10.00 in Canada) depending on the size required.